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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Some Particulars respecting Swift and Stella, with Engravings of their Crania; together with some Notice of St. Patrick's Hospital.* By W. R. WILDE, M.R.I.A., with Communications from Dr. MACKENZIE and Mr. HAMILTON.

(*Continued from page* 434 *of Journal for May.*)

BEFORE we enter upon the consideration of those most interesting inquiries of Dr. Mackenzie, with which our former article commenced, we beg to lay before our readers the following account of the SECOND *post mortem* examination of the Dean's head, on its exhumation in 1835. About the beginning of the last century, "the frequency of floods in the Poddle river, and the insufficiency of sewers to carry off the superabundant water, was the occasion of much injury to the building" (St. Patrick's Cathedral), "and moreover rendered it, on account of damp, unsafe to assemble in."(*a*) Now one of

(*a*) The History and Antiquities of the Collegiate and Cathedral Church

the last public acts of the Dean, before his illness, was having measures taken by the Chapter to prevent this dampness and these inundations; and it is remarkable that their continuance in the year 1835 was the cause of his remains being disturbed. The repairs then necessary were, we are happy to add, the *sole* cause of these sacred relics being again exposed.

" In making some alterations in the aisle of the church, it became necessary to expose *several* coffins, and amongst others those of Swift and Stella, which lay side by side. It was no idle curiosity, neither can we boast of its being zeal for the cause of science, which led to the disinterment; it was purely a matter of accident."(*a*) The circumstance becoming known to a few scientific gentlemen in this city, several persons were present at the disinterment, and, among the rest, the late Dr. Houston, who has given the following interesting account of what took place. " The coffin," which was of solid oak, and placed transversely beneath the pillar supporting the tablet erected to his memory, and bearing the celebrated and well-known inscription, written by himself, " lay about two feet and a half below the flags; it was surrounded by wet clay, and nearly filled with water."(*b*) It would occupy more space than this portion of the subject demands, to enter into the question of the identity of the coffin and its contents. We have thoroughly examined into the matter, and the evidence in favour of the skull being that of Swift is, to our minds, conclusive. We have some additions to make to this evidence further on. Besides the positive appearances on the plate of the coffin, &c.,

of St. Patrick, &c. By William Monck Mason, Esq. 4to. Dublin, 1820. Page 407.

(*a*) See a letter from the late Dr. Houston, " On the Authenticity of the Skulls of Dean Swift and Stella," in the Phrenological Journal and Miscellany, vol. ix. p. 604.

(*b*) Was it a presentiment of this that caused the Dean to request of Mrs. Whiteway that his body should be deposited " in any *dry* part of the Cathedral?"

which then presented, we may remark, that Richard Brennan, the faithful and attached servant of Swift, and who was present both at the *post mortem* examination and the interment, became, after the death of his master, beadle or sexton to the Cathedral; and he had transmitted to his successor, the late Mr. Maguire, many particulars regarding the Dean, among the rest the fact of his head having been opened by the surgeons, "to ascertain the cause of his insanity."

This story, related by Mr. Maguire, before opening the coffin, excited considerable interest, though the persons of any reading who were present should have been aware of the fact of the examination of the head the day after his death; but phrenology, not pathology, was then the all-absorbing subject which moved those engaged in this investigation.

"All the bones of the skeleton," says Dr. Houston, "lay in the position into which they had fallen when deprived of the flesh that enveloped and held them together. The skull, with the calvarium by its side, lay at the top of the coffin; the bones of the neck lay next, and mixed with them were found the cartilages of the larynx, which by age had been converted into bone. All the rings of the trachea, which had undergone the same change, were equally in a state of preservation and order. The dorsal vertebræ and ribs occupied the middle of the coffin; the bones of the arms and hands lay, as they had been placed in death, along the sides; and the pelvis and lower extremities were found towards the bottom. The teeth were nearly all gone, and their sockets were filled up with bone. Six of the middle dorsal vertebræ, and three of the lumbar, were joined together by anchylosis. Several of the ribs were united to the sternum by ossification of the intermediate cartilages. The whole were evidently the remains of a very aged man. The bones were all clean, and in a singularly perfect state of preservation. When first removed, they were nearly black; but on being dried they assumed a brownish colour. The water in which they were immersed was remarkably free from putre-

faction ; even the wood of the coffin was perfectly sound and unbroken."

The British Association were, at this very time, meeting in Dublin, and the skulls of Swift and Stella were then removed, for the purpose of being phrenologically examined by the corps of phrenologists that used to follow in the wake of that learned body: on this, however, hereafter. During the week or ten days which elapsed before they were returned (for returned they certainly were(*a*)), they were carried to most of the learned, as well as all the fashionable societies of Dublin. The University, where Swift had so often toiled, again beheld him, but in another phase ; the Cathedral which heard his preaching, —the Chapter-house which echoed his sarcasm,—the Deanery which resounded with his sparkling wit, and where he gossiped with Sheridan and Delany,—the lanes and alleys which knew his charity,—the squares and streets where the people shouted his name in the days of his unexampled popularity, —the mansions where he was the honoured and much-sought guest,—perhaps the very rooms he often visited,—were again occupied by the dust of Swift!

While these skulls of Swift and Stella were going the rounds, casts and drawings of them were made, from which we now afford our readers the engravings which accompany this essay. Moreover, that of the Dean was also examined, with a view to the elucidation of the malady under which he so long laboured, and of which he died.

Dr. Houston continues: " It is my opinion, that the bones cannot be regarded as free from indications of previous chronic disease. There are certainly no marks of caries or of fungous growths on any part of the head ; but the condition of the cerebral surface of the whole of the frontal region is evidently of a character indicating the presence, during life-time, of diseased

(*a*) The only portion not returned was the larynx, the ossified fragments of which were abstracted by a bystander, and are now in the city of New York, U. S.

action in the subjacent membranes of the brain. The skull in this region is thickened, flattened, and unusually smooth and hard in some places, whilst it is thinned and roughened in others. The marks of the vessels on the bone exhibit, moreover, a very unusual appearance; they look more like the imprints of vessels which had been generated *de novo*, in connexion with some diseased action, than as the original arborescent trunks. The impressions of the middle arteries of the dura mater are unnaturally large and deep, and the branches of those vessels which pass in the direction forwards are thick and short, and terminate abruptly by dividing into an unusual number of minute twigs; whilst those of the same trunks which take their course backwards are long and regular, and of graduated size from the beginning to the end of their course."—See the engraving at p. 10.

In a previous article in the Phrenological Journal, the following additional evidence is afforded of the pathological condition of the cranium. It was dictated by Dr. Houston to Mr. Combe, and approved of by several anatomists who were present at the examination, which took place at Dr. (now Sir Henry) Marsh's house, in Molesworth-street, on the 16th of August, 1835. "At the base, roughened in the sphenoidal region; the processes prominent and sharp-pointed; the foramen magnum of the occipital bone irregular, and the condyloid processes projecting into it. Some parts in the occipital fossæ, the supra-orbital plates, and other portions of the skull, were so thin as to be transparent. The marks of the arteries of the dura mater on the vault were large and deep, but the general surface of the interior of the vault was smooth. Along the line of attachment of the falx the bone was porous, from the multitude of small foramina which had transmitted blood-vessels from the dura mater to the bone in that situation. Above the frontal protuberances (in the region of benevolence) the bone was thickened, apparently by a deposition of bony matter on its inner surface,—making the inner surface at that part, on

both sides, flat in place of concave, and smoother than the other parts, which was the more remarkable, as the other portions of the skull were rather thin. Below, or anterior to that flattened space, about a dozen of small, deep-fissured foramina existed, in a cluster of six or seven on each side, apparently indicating a fungous state of the dura mater at that place. Some foramina in the middle basilar fossæ of the skull were observed, similar to those just noticed, and evidently arising from the same cause. The exterior surface of the skull was smooth and natural. The skull shewed clearly increased vascularity of the dura mater in the basilar and anterior regions. The anterior fossæ were small both in the longitudinal and in the transverse directions. The middle fossæ were of ordinary size; the posterior fossæ very large, wide, and deep. The internal parts corresponding to the frontal protuberances were unequal in concavity: at neither was there any depression corresponding to the great prominences on the outer surface. The two hemispheres were regular and symmetrical."

Most of the so-called pathological appearances here detailed are, however, it is well known, common and natural occurrences in old crania, and no wise indicative of disease. The foramina alluded to are no evidence whatever of a fungous state of the dura mater; but the deep sulci for the meningeal arteries are certainly abnormal, and shew a long-continued excess of vascular action, such as would attend cerebral congestion.

Mr. Hamilton has kindly furnished us with the following communication, accompanied by drawings of the skull, which he made at the time. "In September, 1835, I had the skulls of Swift and Stella in my possession, and, agreeably to your desire, I send you the observations I made on them at the time, together with the sketches which you wished for. On looking at Swift's skull, the first thing that struck me was the extreme lowness of the forehead, those parts which the phrenologists have marked out as the *organs of wit, causality, and comparison, being scarcely developed at all;* but the head rose gradually, and was

high from benevolence backwards. The portion of the occipital bone assigned to the animal propensities, philo-progenitiveness and amativeness, &c., appeared excessive. The side view shewed great elevation above the level of the horizontal line drawn through the meatus auditorius externus. The front view exhibited extreme width of the forehead, large frontal sinuses, and very well-marked external canthi. The orbits were very large, and the orbital plates of the frontal bone very flat, allowing room for great development of the anterior lobes of the cerebrum, and great width of the root of the nose, making the space between the orbits unusually large. On the inside of the upper segment of the skull the groove for the middle meningeal artery was remarkably deep, as were also the depressions for the glandulæ Pacchionæ. The frontal bone was very thick, but the osseous structure did not appear to me to be diseased. It was, however, when looking into the interior, and examining the base, that the wonderful capacity of the skull became apparent. From the flatness of the orbital plates, and the great width of the forehead, the room for the anterior lobes of the cerebrum was very great, the depressions, also, for the middle lobes, were very deep. Although, viewed *externally*, the cerebellum would have been pronounced large, yet, in consequence of the tentorium having been exceedingly low, the cerebellum must have been very small, and the posterior lobes of the cerebrum, consequently, very large. In the temporal regions the skull was thin and semi-transparent; the frontal sinuses were small, though their external appearances would have led to a different conclusion.

"Although the skull, phrenologically considered, might be thought deficient, yet its capacity was, in reality, very great, capable of containing such a brain as we might expect in so remarkable a genius. I took an ordinary skull, and making a section of it on the same level with that of Swift's, I compared their outlines (drawn on paper) together, and found that the

latter exceeded it in a very remarkable manner, particularly in its transverse diameter."

From these observations of Messrs. Houston and Hamilton we are enabled to glean some information with regard to the pathological appearances still existing in the cranium, ninety years after its interment; and it is fortunate that the skull fell into the hands of these gentlemen, or, in the phrenological mania which then existed, it is more than probable that these appearances would have passed unrecorded. At the same time we must remark, that the peculiarity of the disease of the eye, on which Dr. Mackenzie has addressed us, seems to have completely escaped the notice of any of the persons engaged in these investigations.

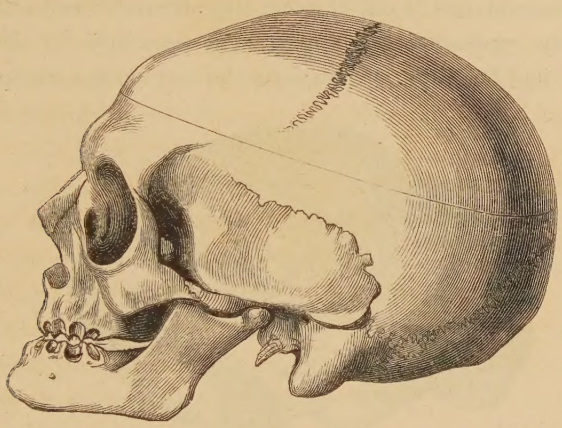
What the exact recent appearances were we have not been enabled to discover. If they were known to, they have not been handed down by any of Swift's many biographers. We have made diligent search among the newspapers and periodicals of the day, but have not been able to discover anything further than that which is already known, viz.: that his head was opened after death, when it was found that his brain was "loaded with water."(*a*) To this may be added the tradition of old Brennan, his servant, to whom we alluded at page 3, and who, according to Dr. Houston, on the authority of Mr. Maguire, boasted, "that he himself had been present at the operation, and that he even held the basin in which the brain was placed after its removal from the skull. He told, moreover, that there was brain mixed with water to such an amount as to fill the basin, and by their quantity to call forth expressions of astonishment from the medical gentlemen engaged in the examination."(*b*)

(*a*) Dr. Lyon's manuscript remarks upon Dr. Hawksworth's Memoir, quoted by Mr. Monck Mason in his History of St. Patrick's Cathedral. See pages 407 and 408.

(*b*) Phrenological Journal, vol. ix. p. 606.

We have reason to believe that the medical men who attended Swift in his last illness were his friends, Mr. Nichols,(*a*) then Surgeon-general, and one of the surgeons of Dr. Steevens' Hospital, and Dr. Grattan, a very eminent physician at that time in Dublin, both of whom are mentioned in Swift's will. The examination was made by Mr. Whiteway(*b*).

Accurate casts were made both of the exterior and interior of Swift's skull, and from these and the drawings furnished to us by Mr. Hamilton, we are enabled to furnish the accompanying accurate illustrations.



This represents a profile view of Swift's cranium, to the description of which, in the foregoing pages, we may add, that,

(*a*) John Nichols succeeded Mr. Proby in the office of Surgeon-General. He was one of the corporation of Steevens' Hospital, and the first surgeon elected to that institution. He died in 1766.

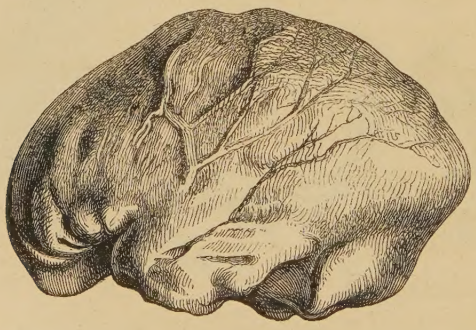
Dr. James Grattan was the son of a clergyman, and one of seven brothers remarkable for their great abilities. He was appointed physician to Steevens' Hospital in 1733, and died in 1747. Swift left him in his will the use of his strong box.

See the notices of these gentlemen in Swift's Works by Sir Walter Scott, vol. i. pp. 522–3; vol. xix. p. 36; and vol. xviii. pp. 499 and 530.

(*b*) John Whiteway, nephew to Mrs. Whiteway, so frequently referred to in the life and writings of Swift, was a very distinguished surgeon in Dublin about the middle of the last century. Swift bequeathed him "one hundred

in its great length in the antero-posterior diameter, its low anterior development, prominent frontal sinuses, comparative lowness at the vertex, projecting nasal bones, and large posterior projection, it resembles, in a most extraordinary manner, those skulls of the so-called Celtic aborigines of Northern Europe, of which we have elsewhere given a description, and which are found in the early tumuli of this people throughout Ireland(*a*). The curved horizontal line marks the section formed in making the *post mortem* examination.

The annexed illustration is taken from a cast of the interior of the cranium, and is one of exceeding interest, inasmuch as it accurately represents the appearances described by Messrs. Houston and Hamilton, particularly the enormous development



of the vessels within the cranium. It resembles the cast of a recent brain much more than that of the interior of a skull, and shews the very small anterior lobes, the great size of the glandulæ Pacchionæ; the exceedingly small cerebellum,—not the result either of compression or degeneration during life, nor

pounds in order to qualify him for a surgeon," and "five pounds to be laid out in buying such physical and chirurgical books as Dr. Grattan and Mr. Nichols shall think fit for him." He was elected surgeon to Steevens' Hospital in 1762, and died in 1797. He was a very skilful operator, and generally employed the flap operation in amputations.

(*a*) See a Lecture on the Ethnology of the ancient Irish: 1844. See also the Irish crania in the museum of the Royal Irish Academy.

produced by disease, but as a natural formation; as may be seen by the very low position of the tentorium. It likewise exhibits the immense size of the posterior and middle lobes, particularly the former. We do not find any appearance of disease in the anterior lobes, either on their superior or orbital surfaces, as far, at least, as the interior of this cast of the skull is capable of demonstrating.

Before proceeding further in this inquiry, or making any observations on the detail of symptoms, and the *post mortem* appearances enumerated, there is one more circumstance connected with the last illness and the death of this illustrious man which should be brought to light, particularly as it has escaped the notice of most of his biographers. After the Dean's death, and subsequently to the *post mortem* examination, a plaster mask was taken from his face, and from this a bust was made, which is now in the Museum of the University, and which, notwithstanding its possessing much of the cadaverous appearance, is, we are strongly inclined to believe, the best likeness of Swift,—during, at least, the last few years of his life,—now in existence. The engraving at page 13 most accurately and faithfully represents a profile view of the right side of this bust, the history of which it is here necessary to relate. This old bust, which has remained in the Museum of Trinity College from a period beyond the memory of living man, has been generally believed to be the bust of Swift; but as there was no positive proof of its being so, it has been passed over by all his biographers, except Scott and Monck Mason, the former of whom thus describes it: "In the Museum of Trinity College, Dublin, there is a dark plaster bust, or cast, of Dean Swift. It is an impression taken from the mask applied to the face after death. The expression of countenance is most unequivocally maniacal, and one side of the mouth (the left) horribly contorted downwards, as if convulsed by pain." He further adds: "It is engraved for Mr. Barrett's essay;" but if it was, it never appeared, and has never before

been published either with or without Barrett's essay(*a*). Sir Walter has greatly exaggerated the amount of contortion which the face exhibits; on the contrary, the expression is remarkably placid, but there is an evident drag in the left side of the mouth, exhibiting a paralysis of the facial muscles of the right side, which, we have reason to believe, existed for some years previous to his death, for we find the same appearance (though much glossed over by the artist), together with a greater fulness, or plumpness, of the right cheek, shewn in a very admirable marble bust of Swift (probably the last ever taken), in the possession of Mr. Watkins, the picture-dealer, of this city. Here, then, we have another and a very important and well-marked feature in this very interesting case, brought to light above a hundred years after death. But before we proceed with the evidence adduced by the bust, it becomes necessary to prove its identity, which, until now, could not be done satisfactorily. Upon the back of this cast, and running nearly from ear to ear, we find two lines of writing, greatly defaced, and a part of the upper and middle lines completely obliterated(*b*). This much, however, can still be read :

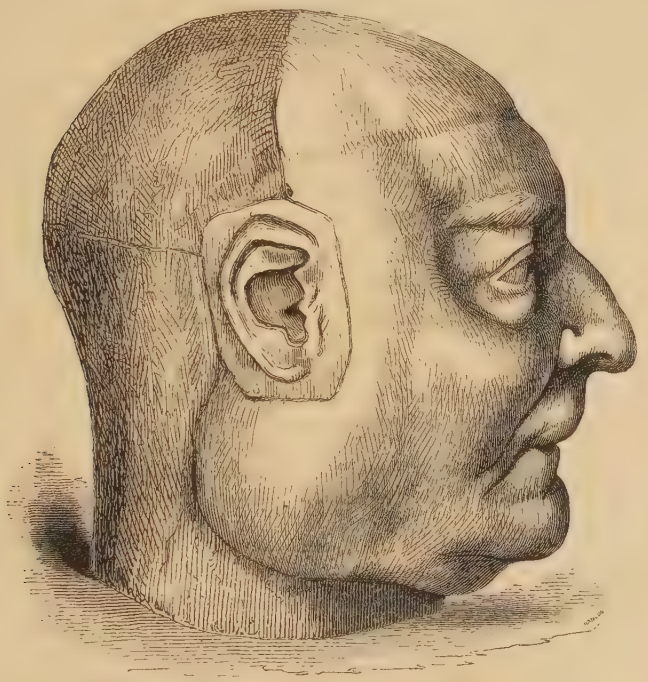
"*Dean Swift, taken off his* * * * * *the night of his burial, and the f* * * * *one side larger than the other in nature.* * * *Opened before.* * * * *The mould is in pieces.*"(*c*)

(*a*) In Nicholl's edition of Sheridan's Life and Writings of Swift, we find a full-face portrait of the Dean, said to have been taken the night after his death. It was this, perhaps, led Sir Walter into the error we have alluded to. Mr. M. Mason supposed, but without adducing any evidence to support his assertion, that the engraving in Sheridan's Life of Swift was taken from this bust. We are inclined to believe Mr. Nicholl's statement that the engraving was made from a picture taken after death.

(*b*) We are indebted to Mr. Ball, the able curator of the museum of the University, for permission to publish this drawing, which was made by Mr. G. Du Noyer, and cut by Mr. Hanlon. The latter gentleman likewise engraved the skulls of Swift and Stella, which were drawn on wood by our distinguished anatomical draughtsman, Mr. Connolly.

(*c*) The original mask remained in the Museum T. C. D. till within a few years ago, when it was accidentally destroyed.

Still this proof was inconclusive; but a deep indention, running nearly parallel with the brow, shews us where the calvarium had been sawn, and the pericranium drawn over it subsequently, and this indentation accurately corresponds with the division of the skull found in Swift's coffin in 1835, thus proving incontestibly the identity of both: they also corre-



spond in the breadth, height, and general outline and measurements of the forehead, allowing about three-sixteenths of an inch for the thickness of the integuments. Posteriorly, however, the bust and skull do not correspond; nevertheless this fact does not in any way militate against our argument, but rather tends to strengthen it, for, upon a careful examination of the bust, it is at once manifest that all the posterior part is fictitious, and evidently finished out, and modelled

in clay, and afterwards the plaster rasped down according to the eye of the artist, as may be seen in the annexed engraving. It was made in two parts, and the difference in surface between the hinder part and the smooth, polished, anterior portion, at once stamps it as fictitious. There is no ear upon the left side, and that upon the right was evidently taken off the body separately, and afterwards fitted into the bust. That it was a cast from the ear of Swift the reader has only to look at Lord Orrery's portrait, or any of the busts of the Dean to be convinced, for Swift's ear was of a very peculiar formation.

This bust, like the skull, is quite edentulous; the nose slightly turned to the left side, and the *left eye* much less full and prominent than the right: in fact it is comparatively *sunken and collapsed* within the orbit. It is well known that Swift had remarkably large, full, and prominent blue eyes. We may, perhaps, account for the hinder portion of the bust being constructed in the manner I have described, by the fact of the Dean having a quantity of long, white hair on the back of his head, which his attendants would not permit to be either removed or injured by taking the mould. In confirmation of this supposition we quote the following passage from Mr. Monck Mason's Annals of St. Patrick's Cathedral, a work, by the way, which contains a clearer and better view of Swift than any other we have read. "A person who resides in my family," says Mr. Mason, in 1820, "is one of the few persons, perhaps the only one now living, who witnessed this melancholy spectacle,"—alluding to his lying in state. "She remembers him as well as if it was but yesterday: he was laid out in his own hall, and great crowds went to see him. His coffin was open; he had on his head neither cap nor wig; there was not much hair on the front or very top, but it was long and thick behind, very white, and was like flax on the pillow. Mrs. Barnard, his nursetender, sat at his head; but having occasion

to leave the room for a short time, some person cut a lock of hair from his head, which she missed upon her return, and after that day no person was admitted to see him."(*a*)

Let us now briefly review the symptoms of this very remark-

(*a*) Throughout the previous pages we have not made references to the works from which we have derived our information, as they would require almost as mu h space as the text itself. Our principal authority was the first and last five volumes of Scott's edition of Swift's Works, particularly his epistolary correspondence. To these may be added, Orrery's, Hawkesworth's, Deane Swift's, Sheridan's, Johnson's, Faulkner's, Nicholl's, Berkely's, Roscoe's, Wills's, and Mr. Monck Mason's biographies, which were published either separately, or attached to editions of his works.

A very remarkable and very general popular error exists with respect to one of Swift's biographers. Having met frequent allusions to "Delany's Life of Swift," and even seen quotations purporting to be from it, we anxiously sought for it, first in all the public libraries, and then among our literary friends, and, in the outset, the recovery of this very generally known work seemed comparatively easy; for notwithstandiug that it was not contained in any of the catalogues of libraries, all the persons connected with these institutions informed us that they were perfectly familiar with it, and would certainly have it for us on our next visit; and most of the publishers and booksellers knew it by appearance, but were unable just at the moment to lay their hands upon it. Our literary acquaintances had all seen it, several had read it, and two of them went so far as to say they possessed it and would send it to us in the morning. Still the book could not be procured either here or in London. The only difference of opinion among those most familiar with it was as to whether it was published in quarto or octavo. Having at length assured ourselves that no such work had ever existed, and even written part of this note, our conviction was greatly staggered by finding in the first general catalogue published by the Royal Society, the following entry: "Delany, Patrick,—A Supplement to Swift's Life, containing Miscellanies by the Dean, Sheridan, Johnson, &c., with notes by the Editor (J. Nicholls). 4to. London, 1779." This appeared all but conclusive; yet not quite so, however. Our friend Dr. Madden undertook to examine the work itself, and thus answers our inquiries: "With regard to this work of Delany on Swift's life, which you were so long in search of, and which so many people speak of but cannot shew, lo! no such work of Delany's exists—no such work was ever written by Delany: the book described in the R. S. catalogue is wrongly described, for, on examining it, I find it is 'A Supplement to Swift's Life, containing Miscellanies by the Dean, Dr. Delany, Sheridan, Johnson, &c., with Notes by the Editor. London, 4to.

able and lengthened case, endeavour to form a diagnosis of it, inquire into the cause of Swift's ophthalmic affection, and consider the question of his insanity, both in a medical and legal point of view.

From the foregoing recital of his symptoms we learn that

1779.' In fact, the thirteenth vol. of the 4to edition of Swift's Works, edited by Mr. Nicholls, in 1779, some time after the death of Dr. Delany."

Delany did write two works, however, upon Swift, though not generally known to the learned; neither of these were, however, lives or biographies. The first was entitled, "Observations upon Lord Orrery's Remarks upon the Life and Writings of Dr. Jonathan Swift, containing several singular Anecdotes relating to the Character and Conduct of that great Genius, and the most deservedly celebrated Stella, in a series of Letters to his Lordship; to which are added the Original Pieces of the same Author (excellent in their kind) never before published." Dublin: printed for Robert Main, at Homer's Head, in Dame-street, 1754, 12mo., pp. 211. And another edition, in 8vo., was contemporaneously published by Reeve, at the Shakespear's Head, in London, pp. 310. It bears no name; but the letters J. R., are affixed to the preface, and it is well known to be Delany's. Besides this spirited answer to Lord Orrery, the same writer, in 1755, published a tract refuting some statements contained in Deane Swift's work. And as these animadversions were personally levelled at Delany, and he answers them in the first person, and styles his tract, "A Letter to Deane Swift, Esq., on his Essay upon the Life, Writings, and Character of Dr. J. Swift, by the Author of 'Observations on Lord Orrery's Remarks,' &c." 8vo. London, Reeve, pp. 31; it fixes the authorship of the "Observations" upon Dr. Delany.

Sir Walter Scott's lengthened quotation from Dr. Delany is, with the exception of one paragraph, nowhere to be found in either of Delany's works. It is chiefly made up from Faulkner's and Hawkesworth's biographies, which, as far as this portion of the life of the Dean is concerned, are *solely* and *entirely* abstracted from Deane Swift's and Mrs. Whiteway's letters already alluded to. We could point out several sentences in this account of the Dean's last illness, which are *verbatim* the same in no less than five works, and that without the smallest acknowledgment.

There is an autograph letter from Sir Walter Scott to C. G. Gavelin, Esq., of this city, in the MS. Library, T. C. D., in which he states that he had nothing whatever to do with the publication or revision of the second edition of the "Works of Jonathan Swift." We believe the editing of the second issue of this publication was intrusted to a son of Hogg, the Ettrick Shepherd.

whatever the real, original, exciting cause of Swift's bodily ailment may have been, it is plain that it was attributed, both by himself and his physicians, to some derangement of the stomach, and the remedies prescribed for him are conclusive on this point. It has been shewn that these gastric attacks were, in early life at least, induced by irregularities of diet. It is also evident that they were attended with vertigo, deafness, sickness of stomach, pain in the head, diminution of muscular power, as shewn by his tottering gait, and numbness or some slight loss of sensation in the upper extremities. That these in turn were symptomatic of some cerebral affection is manifest; but how far it depended on, or was induced by gastric disease, it is now difficult to determine; cases are, however, on record, which tend to shew that all the early symptoms of the Dean's malady may be produced by affections of the stomach and alimentary canal. As Swift advanced in years his symptoms became more decidedly cerebral, whilst the attacks became induced by causes which acted more on the mental than the corporeal nature, such as excitements of various kinds, great mental labour, and strong emotions; to which the peculiarity of his disposition, and the position which he occupied, especially predisposed him.

Of his treatment we shall only remark, that however it may have been applicable in the early stage of his disease, it was anything but judicious in its more advanced and distinctly cerebral phase. Swift certainly drank more wine, took more violent exercise, and was subjected to more frequent and stronger excitements, than a judicious physician of the present day would recommend, or could with safety permit; but then it must be remembered how very headstrong and unmanageable a patient he was, and also that he was, for the most part, his own medical adviser. Indeed he must have had an iron constitution to have withstood the various and long-continued shocks which we have already detailed. To the general aggravation of all the symptoms enumerated in the history of

his case, must now be added paralysis of, at least, the face; and this, from a careful examination of his busts, and other circumstances, we are inclined to think, did not occur until about 1740, when he was in his seventy-third year. It is more than problematical that, for several years previous to this, Swift laboured not only under attacks of temporary congestion of the head, but of chronic meningitis and cerebritis; and from the date of his loss of memory and the supervention of the paralysis we are inclined to believe effusion set in. The long-continued and excessive vascular action to which we refer has left its traces indelibly marked upon the interior of the cranium, as shewn by the engraving at p. 10; and the serous effusion is, in fact, the only *post mortem* appearance recorded by his biographers, for we have no record whatever of the condition of the substance of the brain, though it is probable that there may have been some softening of it. That effusion was suspected during life, we may presume from the question of using the trephine having been raised(*a*). This state was either preceded by or attended with general atrophy and emaciation; impairment of the senses of sight and hearing, great irritability of temper, and excessive restlessness; then loss of memory, and *inability* of speaking; exophthalmus of the left eye, in all probability produced by an internal abscess, or intense inflammation of the anterior lobe of his brain or its coverings, not unlike that fatal form of disease which attacks the dura mater and the brain, over the mastoid and petrous portion of the temporal bone; or, an abscess may have formed in the orbit itself, and served to increase the cerebral symptoms, as well as the pain, &c., under which he then laboured. How the ophthalmic affection ended we can only conjecture:—from the sudden return of consciousness the last day of his illness, it

(*a*) It is a well-known fact that, some years afterwards, several insane patients in Swift's Hospital were trephined, on the supposition that their insanity was produced by the brain having become too large for the cranium. We have no notice of Swift's deafness after the year 1741.

is possible that, if it was an abscess in the orbit, it opened externally, and so relieved him, for a time at least. That the eye was lost we are inclined to believe from the sunken appearance which it presents in the bust in the Museum of Trinity College, particularly when compared with that upon the right side, which is remarkably full and prominent. There is no evidence whatever that he ever had any epileptic fit till the day before his decease, when it appears that he was "in strong convulsive fits for thirty-six hours before death," although his actual dissolution was said to be remarkably placid.

That Swift not only "expired a driveller and a fool," but lived a madman, is what the world generally believes. To enter into the question of what constitutes insanity or idiotcy would here occupy more space than we are able to devote to this part of the question; but having stated at length all that really is known, or has come down to us with any degree of truth attached to it, of Swift's sufferings and diseases, in our former article, we confidently appeal to our medical and legal readers for the truth of our statement, when we assert that up to the year 1742 Swift shewed no symptom whatever of mental disease, beyond the ordinary decay of nature. That toward the end of that year the cerebral disease under which he had so long laboured, by producing effusion, &c., destroyed his memory, and rendered him at times ungovernable in his anger, as well as produced paralysis, &c., is quite certain; but all this was the result of physical disease in one whose constitution was of great nervous irritability, and who had long survived more than "the years of a man." That his not speaking was not the result either of insanity or imbecility, but arose either from paralysis of the muscles by which the mechanism of speech is produced, or from loss of memory of the things which he wished to express, as frequently occurs in cases of cerebral disease, cannot be doubted; for he would often, say his biographers, "*attempt* to speak his mind, but could not *recollect* words to express his meaning, upon which he would

shrug up his shoulders, shake his head, and sigh heartily:" and, again, we read that he "*endeavoured*, with a good deal of pain, *to find words to speak*." And in addition to this we have the authority of one of the very few eye-witnesses of the Dean's condition at this period, who says, that he "*never yet, as far as I could learn, talked nonsense, or said a foolish* thing."

That the law appointed guardians of his person is no proof whatever of his insanity; for there are hundreds of cases in which the law very properly interferes with a man's estate, although he may not be either legally or physiologically insane, but simply incapable of managing his affairs; and it must be borne in mind that Swift had no family or any near relatives to look after him in his latter years. That the poor Dean had not even then lost his powers either of sarcasm or rhyming may be gathered from the following quotation, which we extract from Scott's edition of his works. The precise date of the circumstance has not been recorded, but it was certainly subsequent to the appointment of guardians to his person.

"The Dean in his lunacy had some intervals of sense, at which his guardians or physicians took him out for the air. On one of these days, when they came to the Park, Swift remarked a new building which he had never seen, and asked what it was designed for? To which Dr. Kingsbury answered, 'That, Mr. Dean, is the magazine for arms and powder for the security of the city.'—'Oh! oh!' says the Dean, pulling out his pocket-book, 'let me take an *item* of that. This is worth remarking:—"My tablets," as Hamlet says, "my tablets—memory, put down that!"' Which produced these lines, said to be the last he ever wrote:—

> "'Behold! a proof of Irish sense;
> Here Irish wit is seen!
> When nothing's left that's worth defence,
> We build a magazine.'"

How far this proves the insanity or imbecility of its author the reader is to judge.

That the Dean had a fear of loss of memory and imbecility, or second childishness, may be gleaned from the previous history of his case, and from the circumstance related by Dr. Young of the withered tree, to which we have referred at p. 414 of our last Number; and it is possible that this presentiment may have received additional force in his mind, from the fact of his uncle, Godwin Swift, having remained in a lethargic and paralytic condition for several years prior to his death; and this, we find, is the circumstance which has induced some of his biographers to suppose that Swift laboured under an hereditary disease: but it must first be proved that paralysis and lethargy, such as the Dean's uncle suffered from, are of this character. We have shewn, by the previous history, that the Dean never had epilepsy, and never suffered from convulsions until within a few hours of his death.

It has been regretted that attempts should be made to disprove the insanity of Swift, even prior to the year 1742, on the ground that some of his actions are best accounted for by supposing him *non compos mentis*. But this is a lament which we will not stop either to inquire into or discuss; and we would rather not deviate from the strictly medical questions relating to Swift, in the present essay(*a*).

We only wonder that Swift did not become deranged years previously: with a mind naturally irritable, a political intriguer, peevish and excitable; his ambition disappointed, his friendships rudely severed, his long-cherished hopes blighted; outliving all his friends, alone in the world, and witnessing the ingratitude of his country; while, at the same time, he laboured under a most fearful physical disease, in the very seat of reason, the effects of which were of the most stunning cha-

(*a*) While collecting materials for this essay, many circumstances not generally known, and not properly understood, with regard to Swift, chiefly, however, of a literary character, have attracted our attention. These, with other circumstances of a like nature relating to Stella, &c., it is our intention to publish, in a short time, in a separate essay.

racter, and serving in part to explain that moodiness and moroseness of disposition, which bodily infirmity will, undoubtedly, produce;—we repeat, we only wonder that his mind did not long before give way. But that Swift was either mad in middle life, or mad or imbecile in latter years, as tried and tested by the meaning and definition of these terms, as laid down by the most esteemed authors, we again assert, has not been proved.

There is one other question connected with the second examination of Swift's head to which we would briefly allude; we say briefly, because it has been already ably discussed by an esteemed contemporary(*a*), and because we do not desire to occupy either the pages of our Journal or the time of our readers with the examination of a topic, the ephemeral *prestige* of which has long since passed by. We allude to the phrenological examination of Swift's skull in 1835. We beg leave to premise that, prior to this date, a phrenological examination had been made by a distinguished professor of that *ci-devant* system, of a number of aged lunatics in the Richmond Asylum of this city, in which the previous characters of these persons was said to have been described, from their cranioscopical examination, with great fidelity,—a fact which was vauntingly proclaimed with no small degree of triumph by the advocates of that system. Shortly afterwards Swift's skull was handed to one of the great prophets of this art, who pronounced it to be a very common-place head indeed,—nay, from the low frontal development, almost that of a fool; and in the measurements of the cranium given in the Phrenological Journal we find amativeness large and wit small! with similar contradictions to the well-known character of this great genius; but then, all these discrepancies are endeavoured to be accounted for by the fact, that the skull then presented was not that of Swift the wit, the caustic writer,

(*a*) We beg leave to refer our readers to a very able article on the subject in the London Medical Gazette for 24th October, 1835.

and the patriot,—but that of Swift, the madman and the fool; and to explain this it has been asserted, that the skull had collapsed during the period of his mental disease; although, in the previous instance to which we have alluded, at the Richmond Asylum, the periscope was made without taking into account this item in the physical as well as moral change of the lunatics.

Without examining into the arguments contained in the Phrenological Journal, we at once deny the fact of Swift's skull having altered during life, or of insanity ever producing the effects therein stated; and we may confidently defy its conductors to the proof. Esquirol, one of the highest authorities on the subject, found, from a long series of careful observations, that the skull previously normal does not alter its form or capacity from long-continued insanity or imbecility.

The pictures we have seen of Swift are all, with one exception, full-faced likenesses, and are chiefly decorated with the large, full-bottomed wig, which he usually wore. They, it is true, give an appearance of a high, commanding forehead; but, independent of the flattery of the artists, they in no wise prove the fact they appear to represent, for, decorating the bust, which we have figured at page 13, with a similar head-dress, and viewing it in front, we find it presents fully as elevated and expansive a frontal development as any of the pictures which we have seen of the Dean; and, moreover, the very engraving given in Sheridan's Life, to which we have already alluded, and which was taken either from the body after death or from this cast, shews in its front view the same height of the frontal region exhibited in the pictures, and will, if encircled with the wig, give the usual outline of the Dean's head represented in all his portraits. The exception to which we refer is that engraved for Lord Orrery's work, the original of which is still in this city(*a*); it is a profile by Barber, taken when the Dean

(*a*) In the possession of our friend, Joseph Le Fanu, Esq., the descendant of Sheridan.

was probably about sixty, and is the only portrait of him which we have seen or heard of without the periwig. This portrait, although not a perfect profile, corresponds accurately with the posthumous bust which we have represented in the outline of the anterior portion of the head. Revenet, Lord Orrery's engraver, has laboured to throw a look of imbecility and weakness into this likeness, which the original in no wise possesses; a hint which his Lordship himself has improved upon in the portrait which he endeavoured to draw of his friend.

Of the busts of Swift, of which there are six well known in this city(*a*), we acknowledge that they rather strengthen the assertion of the phrenologists, for they exhibit six different forms of head, bearing but little resemblance to each other, although three or four of them were undoubtedly taken about the same time; yet they all more or less present the sloping forehead. But sculptors, even still less than painters, cannot be relied on for anatomical accuracy in the form of heads, and of this fact we might adduce many proofs. Although the forehead was so retiring that, at one of the meetings of the Dublin Phrenological Society it was stated, "that the man must have been apparently an idiot," in reality the capacity of the cranium was, as Mr. Hamilton has shewn, very great.

Before we dismiss this portion of the subject, we may remark, that the evidences of Swift's "violent and furious lunacy," his "frantic fits of passion," and his "situation of a helpless changeling," quoted from Sir Walter Scott's Life by the Phrenological Journalists, as proving their position, are only to be relied on so far as they accord with the extracts from those letters of Mr. Swift and Mrs. Whiteway which we have already

(*a*) We know of six busts of Swift in Dublin; that placed by T. Faulkner over the monument in St. Patrick's is a very admirable one, and it strikingly exhibits the sloping forehead, as any one may see who examines it by standing upon the steps of Archbishop Smith's monument, on the opposite side of the aisle.

given, for Sir Walter had no further means of knowing the Dean's condition.

The circumstance of Dean Swift's head exhibiting small intellectual, and large animal propensities, has not yet been accounted for by the votaries of phrenology.

Let us now briefly describe the origin and erection of St. Patrick's Hospital, bequeathed to us by Swift, the earliest, and one of the noblest charitable institutions of the country.

It has been supposed by his biographers that a presentiment of his insanity induced the Dean to devote his fortune to the erection of a lunatic asylum; and, probably from an expression in Orrery's work, that he was a fit inmate for his own asylum, it is generally believed that Swift was the first patient in the hospital, although it was not erected till several years after his death(*a*).

It is evident that Swift had long entertained the idea of establishing such an institution; and so early as November, 1731, when he wrote the verses on his own death, we find his determination thus graphically described in the concluding stanza of that celebrated poem:

> "He gave the little wealth he had
> To build a house for fools and mad;
> And shew'd by one satiric touch,
> No nation wanted it so much."

In September, 1732, he appears to have spoken with Sir William Fownes(*b*), on the subject of the establishment of an

(*a*) Lord Orrery, although he never saw Swift in latter years, and had only vulgar rumour and the letters of Mrs. Whiteway and D. Swift to guide him, thus writes of his state after the year 1742: "His rage increased absolutely to a degree of madness; in this miserable state he seemed to be appointed as the first proper inhabitant of his own hospital, especially as, from an outrageous lunatic, he sunk afterwards into a quiet, speechless idiot, and dragged out the remainder of his life in that helpless situation."—*Orrery's Remarks.*

(*b*) A distinguished citizen of Dublin, who had, shortly before this date,

hospital, but without, it would appear, mentioning his own benevolent intention on the subject; and the verses which we have just quoted, though written, had not then been published. After this conversation Sir William addressed the Dean at considerable length on the matter, and enclosed him a proposal, "That an hospital called Bedlam be built in the city of Dublin, or liberties, for the reception of lunatics from any part of the kingdom."(*a*) Among the other items in this proposal, —which is exceedingly well drawn up, and, though published upwards of a century ago, is well worthy of attention at the present day,—we find one inviting the College of Physicians to contribute to this good work by appointing some of their body to superintend the erection of cells, and to regulate the food and diet, &c., of the inmates.

"When I was Lord Mayor," continues Sir William, in his letter accompanying the proposal, "I saw some miserable lunatics exposed, to the hazard of others as well as themselves. I had six strong cells made at the workhouse for the most outrageous, which were soon filled; and by degrees, in a short time, those few drew upon us the solicitations of many, till, by the time the old corporation ceased, we had in that house forty and upward. The door being opened, interest soon made way to let in the foolish, and such like, as mad folks. These grew a needless charge upon us, and, had that course gone on, by this time the house had been filled with such. The new corporation got rid of most of these by death, or the care of friends, and came to a resolution not to admit any such for the future; and the first denial was to a request of the Earl of Kildare, which put a full stop to farther applications. As I take it, there are at this time a number of objects which require assistance, and probably many may be restored if proper care could be taken of them. There is no public place for their reception,

served the office of Lord Mayor. He built the Castle Market, and Fownes'-street is called after him.

(*a*) Scott's Life and Works of Swift, vol. xviii. p. 48.

nor private undertakers, as about London. Friends and relations here would pay the charge of their support and attendance, if there were a place for securing such lunatics.

" I own to you I was for some time averse to our having a public Bedlam, apprehending we should be overloaded with numbers under the name of mad. Nay, I was apprehensive our case would soon be like that in England; wives and husbands trying who could first get the other to Bedlam. Many who were next heirs to estates would try their skill to render the possessors disordered, and get them confined, and soon run them into real madness. Such like consequences I dreaded, and therefore have been silent on the subject till of late. Now I am convinced that regard should be had to those under such dismal circumstances, and I have heard the Primate and others express their concern for them; and no doubt but very sufficient subscriptions may be had to set this needful work on foot. I should think it would be a pleasure to any one that has any intention in this way to see something done in their life-time rather than leave it to the conduct of posterity. I would not consent to the proceeding on such a work in the manner I have seen our poor-house and Dr. Steevens's Hospital, viz., to have so expensive a foundation laid that the expense of the building should require such a sum, and so long a time to finish, as will take up half an age.

" My scheme for such an undertaking should be much to this effect:—

" First, I would have a spot of ground fixed on that should be in a good open air, free from the neighbourhood of houses; for the cries and exclamations of the outrageous would reach a great way, and ought not to disturb neighbours, which was what you did not think of when you mentioned a spot in a close place, almost in the heart of the city. There are many places in the outskirts of the city, I can name, very proper.

" Next to the fixing of a spot, I would, when that is secured (which should be a good space), have it well enclosed

with a high wall; the cost of all which must be known. Then I would have the cells at the Royal Hospital Infirmary, lately made for mad people, be examined how convenient, and how in all points they are adapted to the purpose, with the cost of these cells, which I take to be six or eight. Then I would proceed to the very needful house for the master and the proper servants. Then another building, to which there should be a piazza for a stone gallery for walking dry; and out of that several lodging-cells for such as are not outrageous, but melancholy, &c. This may be of such a size that it may be enlarged in length, or by a return, and overhead the same sort of a gallery, with little rooms or cells, opening the doors into the gallery, for, by intervals, the objects affected may be permitted to walk at times in the galleries. This is according to the custom of London. Annexed to the master's house must be the kitchen and offices." And this very plan seems to have been subsequently adopted in the erection of the present hospital. Fownes suggested the propriety of erecting the institution in an open space, formerly called The Dunghill, facing the end of South King-street, or of purchasing "the large stone building called an almshouse, made by Mrs. Mercer," now Mercer's Hospital.

In January, 1735, Swift memorialized the Mayor and Corporation of Dublin for a piece of ground on Oxmantown Green(*a*), for the purpose of erecting the hospital; and they appointed a "committee to inspect the said green" for that purpose.

The following letter, the original of which(*b*) now lies before

(*a*) Oxmantown Green, on which Blackhall-place and the Blue-Coat Hospital now stand,—one of the ancient Danish localities in Dublin, on the northern side of the river. It is curious that this memorial of the Dean commenced as follows: "That the said Dean, having by his last will and testament settled his whole fortune to erect and endow an hospital," &c., although the Dean's will bears date the 3rd of May, 1740;—therefore it would appear that he had made some previous will, or settled his property for this purpose by means of some other instrument.

(*b*) In the possession of A. J. Maley, Esq.

us, is so much to the purpose, so characteristic of the man, and reminds us so forcibly of the expressions of another distinguished churchman in his latter days, that we here insert it:

"*To Eaton Stannard, Esq.,*
"*Recorder of the City of Dublin.*

"Sir,—I believe you may possibly have heard from me, or publick report, of my resolution to leave my whole fortune, except a few legacies, to build an Hospital for Ideots and Lunaticks in this city or the suburbs; and, after long consideration, I have been so bold as to pitch upon you as my director in the methods I ought to take for rendering my design effectual. I have known and seen the difficulty of any such attempt by the negligence, or ignorance, or some worse dealing by executors and trustees. I have been so unfortunate, for want of some able friend of a publick spirit, that I could never purchase one foot of land; the neighbouring country squires(*a*) always watching, like crows for a carcase, over every estate that was likely to be sold; and that kind of knowledge was quite out of the life I have led, which in the strength of my days chiefly past at courts and among ministers of state, to my great vexation and disappointment, for which I now repent too late. I therefore humbly desire that you will please to take me into your guardianship as far as the weight of your business will permit. As the City hath agreed to give me a piece of land, my wish would be to make the Lord Mayor, Recorder, and Aldermen, my trustees, executors, or governors, according as you shall please to advise; and out of these, Committees may be appointed to meet at proper times(*b*). My thought is, that the city will be careful in an affair calculated wholly for the City's advantage. If you would favour me so much as to fix any day during this vacation to dine at the Deanery, I shall

(*a*) The word "squires" is omitted in the copy of the letter published by Sir W. Scott.

(*b*) The city not having furnished the ground after all, may probably account for the names of the Corporation being omitted in the Dean's will.

be extremely obliged to you, and give you my very crude notions of my intentions.

"I am, with very great esteem, Sir,

"Your most obedient and obliged Servant,

"JONATH. SWIFT.

"*Deanery House,*

"*April 11th*, 1735."

In 1737 a mortmain bill was introduced into the Irish parliament for preventing the settlement of landed property on the Church, or on public charities. The Dean, foreseeing the effect of this, petitioned against it, and it never passed into a law. The site finally chosen was on a piece of waste ground, or common, surrounding Dr. Steevens's Hospital, which, from its being mentioned in Swift's will, we must suppose he had been in treaty for prior to 1740. By this will he demised his whole property, amounting to about £12,000, to his executors, to purchase lands, with the profits of which to erect and endow "an hospital large enough for the reception of as many idiots and lunatics as the annual income of the said lands," &c., shall be sufficient to maintain; and in case that a sufficient number of idiots and lunatics could not be procured, that incurables, not labouring under infectious diseases, should be admitted. The year after his death his executors became incorporated into a body of governors, and obtained a charter in 1746. Voluntary contributions were also set on foot, which, with parliamentary grants, and the issue of the Dean's bequest, enabled the hospital which now stands adjacent to that of Dr. Steevens to be opened upon the 19th of September, 1757, for the reception of fifty patients. It is now capable of accommodating 150 patients, seventy-five males and seventy-five females, besides the officers and servants of the institution, amounting to about thirty.

The various details of this noble institution are already well known to the profession and the public, and, therefore, unnecessary to be here repeated. The late Lord Chancellor

of Ireland affected some important changes in carrying out the intentions of the noble donor. We have only further to remark upon two circumstances connected with the management of this institution. We regret to find that there is neither picture, bust, arms, carving, name, nor any other memorial of the munificent and distinguished founder to be seen in any part of this extensive institution. As the verses written upon the presentation of Swift's bust to the library of Trinity College by the senior sophisters, graphically allude to the Dean's bequest, we here insert them, the more particularly as they have not been printed in any collection of the Dean's works:

> "Rich in unborrow'd wit, thy various page
> By turns displays the patriot, poet, sage.
> Born to delight thy country, and defend,
> In life, in death, to human race a friend;
> For, mad and idiots,—whom alone to teach
> Thy writings fail,—thy will's last bounty reach."(*a*)

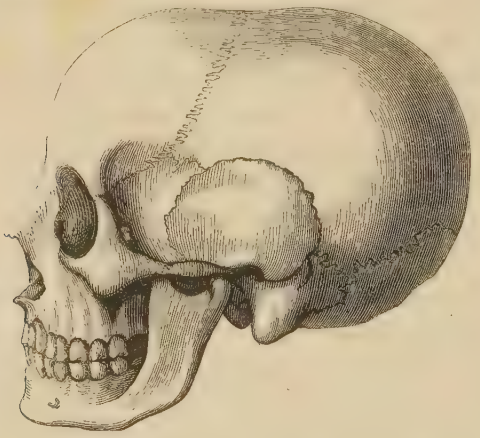
The other circumstance on which we would remark is the great facility which the institution offers for a school and clinique, in which to educate medical practitioners, both as attendants upon, and masters of similar institutions; and also for instructing nurses and keepers to be employed both in hospitals and in private practice. We feel that we need not enlarge upon this topic(*b*).

We beg leave to conclude this article, which has now extended to a far greater length than we originally intended, by presenting our readers with the accompanying engraving of the cranium of Esther Johnson, better known as Stella, which was exhumed from the vaults of St. Patrick's Cathedral, along with that of Swift, in 1835. "The coffin in which it lay was

(*a*) Faulkner's Journal, March 21, 1749.

(*b*) For the particulars of the history of St. Patrick's, or Swift's Hospital, as it is now usually called, we refer our readers to Harris's, Whitelaw and Walsh's, and all other histories of Dublin, as well as the charter of incorporation, and the various Reports made by the Inspectors of Lunatic Asylums, and other documents of that nature, for the last twenty years.

of the same material, and placed in the same relation to the pillar bearing the tablet to her memory, as that of the Dean; and the bones constituting the skeleton exhibited the same characters, and were in equally perfect preservation, though interred ten years earlier. Its exact and proper place was well known, and no other coffin lay near it from which any confusion might have arisen."(*a*)



As may be seen by the accompanying representation, it is a perfect model of symmetry and beauty. Its outline is one of the most graceful we have ever seen; the teeth, which, for their whiteness and regularity were, in life, the theme of general admiration, are, perhaps, the most perfect ever witnessed in a skull. On the whole, it is no great stretch of the imagination to clothe and decorate this skull again with its alabaster skin, on which the rose had slightly bloomed; to adorn it with its original luxuriant dark brown hair, its white, expanded forehead, level pencilled eye-brows, and deep lustrous eyes, its high Roman nose, its delicately chiselled mouth, and short

(*a*) Phrenological Journal, vol. xix. p. 607. The skull of Stella was returned to its former, and, we hope, its last resting place, at the same time as that of Swift. Lest our American friends might suppose that any slight or insinuation was intended by the note at p. 4, we beg leave to state that it was one of our own countrymen who carried off the larynx of the Dean.

pouting upper lip, its full, rounded chin, and graceful swelling neck,—when we shall find it realize all that description has handed down to us of an intellectual beauty of the style of those painted by Kneller, and with an outline and form of head accurately corresponding to the pictures of Stella which still exist(*a*).

To Dr. Mackenzie, of Glasgow, our readers are indebted for any interest this article may possess, or any new light which it may have thrown upon the character and disease of our illustrious countryman. It has been well said, that Ireland worshipped Swift " with almost Persian idolatry. Sagacious and intrepid,—he saw, he dared; above suspicion, he was trusted; above envy, he was beloved; above rivalry, he was obeyed. His wisdom was practical and prophetic,—remedial for the present, warning for the future; he first taught Ireland that she might become a nation, and England that she must cease to be a despot. But he was a churchman. His gown impeded his course, and entangled his efforts; guiding a senate, or heading an army, he had been more than Cromwell, and Ireland not less than England. As it was, he saved her by his courage,—improved her by his authority,—adorned her by his talents,—and exalted her by his fame. His mission was but of ten years; and for ten years only did his personal power mitigate the Government; but though no longer feared by the great, he was not forgotten by the wise; his influence, like his writings, has survived a century; and the foundations of whatever prosperity we have since erected are laid in the disinterested and magnanimous patriotism of Swift."(*b*)

(*a*) There are two very good pictures of Stella in Dublin, on which, with other circumstances of the like nature, we shall remark in another place. Stella bequeathed her fortune of £1000 to endow a chaplaincy for Steevens' Hospital, so long as the Protestant religion is that established in Ireland.

(*b*) See a tract written by the Hon. John Wilson Croker.

Art. II.—*A Memoir on the Use of Auscultation in the Treatment of Labours.* By Alfred H. M'Clintock, M.D., F.R.C.S.I., Ex-Assistant of the Dublin Lying-in Hospital, Vice-President of the Dublin Obstetrical Society, and Lecturer on Midwifery, in the School of Medicine, Park-street.

[Read before the Dublin Obstetrical Society.]

It may be laid down as a general rule, to which there are but some trifling exceptions, that the greatest strides of advancement in medical science have been the result of improvements in our means of diagnosis. In virtue of this principle it is that Laennec's grand discovery constitutes an epoch so remarkable in the history of medicine, and has gained for him a reputation of such wide extent and permanence. Now the discovery of the fœtal heart's sounds by Maior and Kergaradec was an event of analogous importance in the history of obstetric science; for though, strictly speaking, it must be regarded as the result of a special application of stethoscopy, and therefore a fact arising out of Laennec's previous disclosure, yet this should not diminish the credit due to these investigators, or detract from the honour to which they are so justly entitled for the immense advantages that have been conferred on midwifery through the exercise of their ingenuity and research.

An entirely new field was thus opened for auscultatory observation. At first it was supposed that the sole utility of this addition to our knowledge was the aid it renders us in detecting the existence of pregnancy, and distinguishing this state from the many real diseases and feigned conditions with which it may be, and unfortunately often is, confounded. If its advantages had extended no further, it would still have been a discovery of unquestionable value, and would justly have ranked amongst the most conspicuous modern improvements in obstetric science. But, happily, auscultation of the gravid uterus has not been restricted to this one object of the diagnosis of pregnancy; for later investigations have shewn that the

careful employment of the stethoscope is capable of affording many practical indications of great value in the treatment of labours, chiefly from the information which by its means we can obtain regarding the life or death of the fœtus during parturition,—a question, I need hardly say, of considerable moment, and the decision of which very generally exercises great influence both upon the time for interference and the choice of instruments.

Here I cannot help expressing unfeigned surprise, that though the admirable works of Dr. Evory Kennedy and Dr. Collins have been now so many years before the profession, the importance of the stethoscope in the management of labour cases does not yet seem to be at all sufficiently appreciated; nor has the subject received from authors upon midwifery that share of attention which its intrinsic merits deserve, or which the recommendation of two such names should have entitled it to.

Dr. W. O'Brien Adams, indeed, has recorded his testimony in favour of the practice(*a*); and Professor Murphy, of London, has done the same in his recently published Lectures: but the writings of Ramsbotham, Rigby, Lee, and Burns, &c., though so full and comprehensive upon every other matter, and deservedly ranking amongst the standard obstetrical authorities of the day, give upon this subject scarcely any information. There can be no question but that to Dr. Collins and Dr. Kennedy belongs the merit of having, in these countries at least, first taken advantage of Maior's discovery, and brought it to bear successfully on the treatment of some of the most perplexing cases that we meet with in the course of midwifery practice(*b*). Indeed, so far as my researches go, they would

(*a*) Dublin Journal of Medical Science, vol. iii. p. 65.

(*b*) It is gratifying to know that the Dublin school of medicine took the lead in this very important matter, in these countries. Dr. John Ferguson first called the attention of the profession to the discoveries of Maior and Kergaradec. Dr. Evory Kennedy, who investigated this subject with great

incline me to believe that the physicians to the Dublin Lying-in Hospital were the first who extensively used the stethoscope in practical midwifery, or attached importance to its indications in the treatment of labours. It should, perhaps, be stated, that in the year 1831 M. Bodson brought a memoir upon this subject under the notice of the *Acadèmie Royale de Mèdecine*, in which he endeavoured to prove that auscultation of the fœtal heart furnishes us with very certain means of knowing whether the child's life be in any danger from the continuance of the labour; further adding, that if the result of our examination lead us to apprehend such a condition of the fœtus, it is a sufficiently strong ground for the employment of the forceps. This paper was unfavourably reported on by M. Dubois(*a*), who considered it quite impossible that we could form any correct estimate of the child's strength by stethoscopic examination, and he, therefore, denied that such should be received as an adequate reason for using the forceps.

In writing the present memoir, my chief design has been to communicate faithfully and impartially the results of my observation of the use of auscultation in the management of labours, and thereby to contribute (even though it be but a fragment) towards the advance of our knowledge in this field of stethoscopic inquiry. I must here remark that the materials which form the substance of this paper were collected, almost exclusively, from what came under my own immediate notice in the wards of the Dublin Lying-in Hospital, during the period of my official connexion with that Institution, under the auspices of its present Master, Dr. Charles Johnson. To attest the importance of these facts, and to be the means of making them more generally known, is to me a sufficient re-

zeal and ingenuity, shewed its valuable influence not only on midwifery, but on medical jurisprudence; and Dr. Collins's laborious and most valuable Report upon his seven years' mastership completely established its utility and importance in practical midwifery.

(*a*) *Archives Generales*, vol. xxvii.

ward; and should this article have the effect of directing closer and more earnest attention to the subject, I shall consider myself amply recompensed.

When seeking for the fœtal heart at the commencement of labour, it is very generally found in one or other iliac fossa,—more commonly the left. The precise locality in which it is heard depends mainly upon the position of the fœtus *in utero*, the maximum of its intensity almost always corresponding to the part of the uterus with which the child's thorax is most closely in contact. This, as a general rule, holds good, and its application to the purposes of diagnosis admits of ample illustration, as shall presently appear.

In ordinary vertex presentations the *back* of the thorax is the part most closely applied to the uterus, owing to the position which the child's body habitually holds in these cases,—the legs being doubled up on the abdomen, the chin depressed on the chest, and the whole body bent forwards, so as to present a considerable convexity on its posterior part. Hence it follows, that, in the first and second positions of the head (where the back of the child is anterior), we may expect to find the fœtal pulsation most audible in the left and right inguinal regions respectively, whilst in the third and fourth positions it should be more posterior towards the woman's loins. Experience has convinced me that this is pretty uniformly correct; and the concurrent testimony of Kennedy, Nægèlé, Anderson, and others, tends to confirm it. The rotation of the head, even, from the third position into the second, and the fourth into the first, may be sometimes traced with tolerable accuracy by making successive stethoscopic examinations, and noting the changes in the situation of the fœtal heart. In facial presentations, owing to the attitude of the child, the *front* of the chest is the part which lies most contiguous to the uterine parietes, and the situation of the fœtal pulsations have been found to agree therewith, being audible anteriorly (in the iliac region) when the head holds the mento-pubic position,

and rather posteriorly when it is in the opposite or mento-sacral position.

As regards breech presentations, I have very frequently verified the observation of Dr. Collins, that, in such, the fœtal heart is most distinctly heard near the umbilicus of the mother(*a*). The same remark equally applies to footling cases. I have practised auscultation in only two or three instances of arm presentation, and in these the fœtal pulsations were not audible so high up as the umbilicus, though somewhat above the natural situation.

I have thought it well thus briefly to state the result of my experience of the use of the stethoscope in diagnosing the different presentations and positions of the child, because some continental writers seem to attach great weight to its indications in determining this question. I would beg leave, however, distinctly to state my conviction, that the information derivable from this source is much too uncertain and fallacious ever to be put in comparison with the touch, or to justify our relying upon it alone in a matter of such vital importance. At the same time I may consistently add, that, in dubious cases, it is well deserving of employment as an auxiliary. A question here presents itself for solution, namely, can we always succeed in discovering the fœtal cardiac sounds during labour, supposing, of course, the child to be alive? To this I would answer, yes; but then the examination, to be adequate, must be made by one accustomed to obstetric auscultation, and who carefully explores every region of the abdomen, and repeats the investigation twice or thrice, if necessary, before coming to any conclusion. Professor Anderson, of Glasgow, states, that, out of 180 pregnant women at the full time, whom he auscultated, he only failed in twelve instances to detect the fœtal pulse, and in these twelve alone the child was dead-born(*b*). And of the many hundreds of cases in which I exa-

(*a*) Practical Treatise, p. 39.

(*b*) Lond. and Edin. Monthly Jour. of Med. Science, Feb. 1844.

mined for the fœtal heart, as a part of my duty when assistant in the Lying-in Hospital, I can conscientiously state that there were, at most, only two or three instances in which the child's vitality was not detected at some period before delivery, and, in each of these exceptional cases, it was mere curiosity, and not any prospect of advantage, that led to my using the stethoscope. I have said "at some period," because, in the first stage of labour, and whilst the membranes are yet unbroken, a failure may occasionally take place; but, after this event, the uterus contracts on the child, and the points of contact are so multiplied, that the probability of our succeeding is then greatly increased. No doubt some trouble and a little patience are occasionally required in the investigation, but such must always be the case where precision of diagnosis is the object to be attained. In support of this assertion I need only allude to the examination necessary for the accurate diagnosis of any disease of the chest,—even that most easy of recognition. But I feel persuaded no conscientious man would ever make this a rational objection to the employment of the stethoscope, or even give it a moment's consideration, where life and character are, in any degree, at stake.

The existence of twins *in utero* may sometimes be very plainly and unequivocally demonstrated by the use of the stethoscope; in fact, this is the only way by which we can be assured of such being the case, before the birth of one of the children. To establish this diagnosis, it is not sufficient, however (as Nægèlé has stated), to hear fœtal pulsations at two separate parts of the abdomen, for though this is certainly strong presumptive evidence, yet, to make it conclusive, there must be *a want of synchronism in the beats as heard at the two points.* The reason for laying down this rule is simply this:—that in uniparous females we may occasionally hear the fœtal heart at two or more points very remote asunder, and separated even by an interval in which no pulsation is audible.

Now, in all the instances hitherto brought forward as illus-

trating the use of auscultation, the reader may perceive that its indications are uncertain, and liable to fallacy, and that the benefits arising from its employment have reference chiefly to the position, or presentation, of the child, points which can be ascertained sufficiently well by other and simpler means. Even the diagnosis of twins is more a matter of curiosity, and a proof of the auscultator's skill, than of any real or solid advantage, inasmuch as this information does not exert any influence upon the practice before the birth of the first child.

Let us now place this matter in another point of view, and see how far auscultation is capable of revealing the child's state, or condition, during parturition. This inquiry obviously has reference, not to the situation, but to the character of the fœtal cardiac sounds, as to frequency, strength, regularity, &c., together with the alterations they may undergo during the progress of labour. At the very outset an important practical question presents itself for solution, viz.: does the child usually or ever perish in the course of a tedious labour, before the full development of those bad symptoms, which, taken together, would indicate the necessity for immediate interference? To this I would reply in the words of Dr. Collins, and, I believe, his opinion is amply borne out by the experience of all accurate observers. He writes: "I have no difficulty in stating, and that after the most anxious and minute attention to the point, that where a patient has been properly treated from the commencement of her labour; where strict attention has been paid to keep her cool; her mind easy; where stimulants of all kinds have been prohibited, and the necessary attention paid to the state of her bowels and bladder; that under such management, the *death of the child* takes place in laborious and difficult labour before the symptoms become so alarming as to cause any experienced physician to lessen the head."(*a*) As regards my own personal experience, I can only say, that I have seen but one exception to the above statement, and in

(*a*) Dr. Collins's Practical Treatise, p. 16.

this instance the great delay was in the first stage of the labour. Of the reputed signs of the child's death it is unnecessary to say anything, their fallacy and great uncertainty being universally acknowledged.

Let us now, then, come to the main point, and put this query: "Under what circumstances can the absence of the fœtal pulsations be received as adequate proof of the extinction of life in the child?" In reply to this question, I would say: that if, in the course of a tedious labour, the fœtal pulsations, from having been distinct and normal, gradually become rapid and weak; and that, as labour advances, they undergo a further change of character, so that it is with extreme difficulty they can be recognised at all; and that, finally, if at a still later period the most careful examination, conducted with the same regard to accuracy, and made by the same auscultator, altogether fail to detect them;—then, under these circumstances, we may rest assured that they have ceased, and that, consequently, the death of the fœtus has taken place(*a*). It cannot be too often reiterated, that the stethoscopic indications of the child's death derive their chief, if not their entire value from this *principle of comparison*. Thus, no matter how expert the auscultator may be, his finding the sounds absent, after making only one solitary examination, is not, by any means, a sufficient *datum* whereon to found an opinion. It is essential to the diagnosis that the chain of evidence be complete, and that a series of examinations shall have been made throughout the labour, in order to qualify this negative result, so that it can be received as positive information. I dwell particularly upon this point because it has been often urged, that as the proof of the child's death afforded by the stethoscope is of a negative kind, it is not deserving of confidence, and, therefore, should not be acted

(*a*) Before proceeding to examine for the fœtal heart, we should always be sure that there is no retention of urine, as this would materially interfere with our object, by obscuring the sounds, or rendering them wholly inaudible.

on; but it will be at once perceived that the whole force of this objection depends upon those accompanying circumstances, whose indispensable value and importance we have endeavoured to place in their true light. Again, I have heard it argued, that the child might, perhaps, retain vitality at a time when the sounds of its heart could not possibly be recognised by the ear. To this opinion, which is quite gratuitous, the whole tenor of our experience is completely opposed; nay more, I have good reason for believing that the child is reduced to a state past recovery before the pulsations of its heart have ceased to be audible. Previous to their final cessation we have generally observed the sounds to undergo certain changes in character, of which the most prominent, as well as the most constant, is a gradual failure of their strength and intensity. Some time after this alteration has occurred, they increase in frequency, and then begin to intermit, or become irregular, soon after which they cease to be heard. The lapse of time necessary for this progressive series of changes to take place varies considerably in different cases, but we have very rarely found it to occupy less than four or six hours. During the progress of these alterations, I have very constantly remarked the sounds to be most feeble and depressed immediately after the subsidence of a pain; but in the interval, and before the recurrence of another uterine contraction, they have nearly regained their strength and frequency. I may also mention here, that it is hardly ever possible in any instance to hear the fœtal heart's pulsations during the presence of an active pain,—such is my experience, at least.

How far, or in what way, the treatment should be affected by the knowledge of the child's death, it is not for me here to point out, as such inquiry would carry us beyond the scope of the present communication; but I may be permitted to say, that the considerations which prompt the use of the stethoscope in the treatment of tedious and difficult labours (of which I have been hitherto speaking), is a regard for

the safety of the mother,—a humane desire to save her hours, perhaps, of protracted suffering and danger, the most favourable issue of which can only be the birth of a lifeless child.

We next turn to a class of cases where auscultation has been advantageously employed with a view to saving the life of the fœtus, by pointing out the exact time when delivery should be speedily effected by means of the forceps or vectis. The cases to which I allude are those in which the ergot of rye has been given to overcome that inertia of the uterus which proved a cause of delay in the second stage of labour.

There can be no possible doubt, but that ergot of rye administered to a patient in labour, is capable of acting deleteriously on the child. Dr. Beatty, whose experience in the use of this medicine is very considerable, strongly maintains this opinion(*a*), which is further borne out by the results of still more extended observation in the wards of the Lying-in Hospital. This injurious effect may be produced within a very short time after giving the ergot. Thus in two instances related by my former colleague, Dr. Hardy(*b*), the children were destroyed, although only twenty minutes in one case, and twenty-five in the other, elapsed from the time of giving the ergot until the fœtus was born, and in each the fœtal heart was loud and distinct at the time of administering the medicine. Dr. Beatty fixes the limit beyond which the child will rarely be born alive, after the exhibition of the ergot, at two hours, and to this rule I have seen but two or three exceptions. It is plain, however, that there is considerable latitude as to the time at which the ergot may commence to exert a deleterious influence upon the child, and that, therefore, so far as regards time, no limits of safety can be prescribed. Now in all these cases auscultation proves eminently serviceable from the information it affords us respecting the state of the fœtus; for by making successive stethoscopic examinations at short intervals after giving the ergot, and

(*a*) Dub. Med. Jour. vol. xxii. (*b*) Dub. Med. Jour. vol. xxvii.

closely watching any change that may take place in the character of the fœtal heart's sounds, we shall have the earliest intimation of threatened danger to the child, and, by the timely intervention of art, be able to rescue it from a position which will inevitably prove fatal unless prompt delivery be effected. I have repeatedly witnessed the advantage of auscultation in these cases, and had the gratification of seeing children extracted alive, who I am satisfied would have perished, had there been no such unerring guide to indicate the precise moment at which to interfere, and beyond which delay was death. I shall relate the particulars of three cases to illustrate these observations.

Case I.—On October 25th, 1845, I was brought to see a stout young woman who was in labour of her first child. Upon examination I found a large scalp tumour on the head, which was tolerably low down in the vagina, so that I could readily feel the ear; and I ascertained also that the head was in the fourth position of Nægèlé,—the face being directed towards the right foramen ovale. The mother's pulse was 100, and the fœtal heart was distinctly heard at the right side, near the spine of the ilium. There was scarcely any uterine action, and the catheter had to be passed on account of retention of urine. I learned from the practitioner in attendance that matters had been precisely in the same state for twelve hours; so for this and other reasons which it is unnecessary here to mention, we resolved upon making trial of the ergot of rye, and accordingly gave fifteen grains of the fresh powder in the strained infusion of half a drachm. This, I may observe, is the ordinary mode of exhibiting it in the Dublin Lying-in Hospital. In twenty minutes the dose was repeated. It did not produce much uterine action, but in fifteen minutes after the last dose I found, by the stethoscope, that the fœtal heart had fallen from 130 to 112, and had also become reduced in strength: seeing that there was no time to be lost, I passed up one blade of the forceps, and, using it as an extractor, speedily brought the

head through the vulva; but before this was effected I felt it revolving in the pelvis,—changing, in fact, from the fourth into the first position, in which manner it cleared the outlet. The child was still-born, but after some little trouble was perfectly resuscitated; it only survived a few days, however.

This case requires little or no comment. In thirty-five minutes from the first dose, although no active pains were produced, the stethoscopic indications shewed the imminent danger of the child; and the result proved that, had delivery been deferred for some minutes longer, its life would, in all probability, have been forfeited.

Case II.—It was this woman's fourth child. She was of a delicate, spare habit; and had been in labour for nearly fifty hours; but for the last eight before my seeing her there was a complete suspension of uterine action. Except being very weak and enfeebled, there was no other unfavourable symptom present. The head was low down in a very capacious pelvis, and the fœtal heart was loud and distinct. After trying the effect of change of position, stimulating enemata, &c., for a couple of hours, without deriving any benefit, I determined upon giving her the ergot of rye. She got two doses of the medicine, of the same strength as in the former case, at an interval of forty minutes. The second one produced some slight pains; and in twenty minutes after its administration (i. e. exactly an hour from the first dose) I found the fœtal pulsations beginning to fail in frequency, and to get feeble; so, as no advance whatever had been made, I at once passed up the pubic blade of the forceps, and with ease extracted the head of a living female child.

In this instance, delivery was effected upon the first indication of any injurious influence being produced by the ergot on the child.

Case III.—A woman, aged 30, came into the Lying-in Hospital, December 18th, 1843, to be confined of her third child. Her labour progressed favourably, though slowly, until

the head began to press on the perinæum, when the pains became inefficient, and during several hours no advance whatever was made. A dose of ergot was now given; the fœtal heart then beating 160, and very distinctly. In thirty minutes after the dose, the heart's sounds had lost much of their clearness, and as the uterine action was not at all increased, a second dose of the medicine was exhibited. Within ten minutes after this (and forty from the time of the first dose) we found the fœtal heart still further reduced in strength and frequency. Under these circumstances it was deemed advisable to accomplish delivery as speedily as possible, there being no prospect of this being effected by the pains. The forceps, therefore, was applied, and a female child extracted in a state bordering on asphyxia, out of which it was recovered after some little exertion.

Were it necessary I could greatly multiply the number of instances of this kind, in which, after the exhibition of secale cornutum, the stethoscope was employed as an exponent of the degree of danger to the child. It will be perceived from the above cases that the changes in the fœtal heart's sounds, which may be regarded as indicating the child's danger, are, a failure in strength, and a diminution in rapidity; and at a more advanced period, irregularity or intermission. Dr. Hardy thinks "that in those cases where the number of the pulsations have been steadily reduced below 110, and, at the same time, with intermissions, the child will be rarely, if ever, saved, although its delivery should be effected with the greatest possible speed."(*a*)

I would here digress a moment to observe, that the contemplation of such cases as the above has led Dr. Johnson to form an aphorism respecting the employment of ergot, viz.: that since it is always apt to exert a poisonous influence upon the child, and this too within a short period after its administration, it is most desirable that the employment of the forceps be

(*a*) Dublin Med. Jour. vol. xxvii. p. 227.

practicable at the time of resorting to the use of the medicine. There can be no possible doubt but that this condition is one whose presence is much to be wished for in those cases of tedious labour where ergot is had recourse to: at the same time be it remarked, that there are other cases of this class in which the remedy may be advantageously used, as I have had many opportunities of seeing, in the practice of the Lying-in Hospital. If we compare the effects produced by ergot of rye, and by difficult labour, on the fœtal heart, I think that this difference will generally be found to exist,—that the latter occasions a rise in the frequency of its pulsations, whilst, under the influence of ergot, an opposite effect is almost invariably observed, as was noticed in each of the foregoing cases. It is a remarkable coincidence that the same depressing effect is very constantly produced by this medicine on the maternal circulation.

Let us now turn to another class of cases where the use of the stethoscope may be rendered available in making a diagnosis, and, consequently, influence the prognosis and practice. It is a well-established fact that in ruptures of the uterus the child almost invariably perishes, and this too within a very limited space of time after the occurrence of the accident. I am aware that Dr. Burns has stated an opposite opinion, but upon what grounds I cannot say, as he has given no case where a living child was extracted by the forceps after laceration of the uterus. I only know of two well-authenticated instances(*a*) where a fœtus was born alive after this accident

(*a*) Since writing the above, I have seen the following very brief notice of a case where the child was born alive after a tear of the cervix. "Dr. Thompson mentioned the case of a woman whose labour was brought on by a fall in the eighth month of her first pregnancy. When he saw her the waters had been away thirty-six hours; the pains were very strong; the os dilated to the size of a shilling, very rigid, and the breech presenting. While he was making an examination he felt the cervix tear under his fingers, the fissure running to the left side. The child was alive within twenty minutes."—*Ed. Monthly Jour. of Med. Science*, April, 1847. To be complete, this case re-

had occurred. These are recorded by Dr. Collins(*a*), and I think they may almost be regarded as the exceptions which prove the rule: for in one of them the uterus burst during the delivery of a child by the feet, on account of placenta prævia; and in the other there was merely a small portion of the muscular structure of the organ rubbed away by the attrition of the child's head in a tedious labour, and no unfavourable symptom shewed itself until the fifth day. In the first of these instances there could only have been an interval of one or two minutes from the moment of the laceration till the birth of the child; whilst the second case is scarcely deserving of the name of rupture, as the bare possibility of such existing was not suspected, and no untoward symptom whatever manifested itself till after the fourth day. We cannot fairly, then, regard these cases as militating against the rule already stated, " that the child dies within a very short period after the occurrence of the accident." A knowledge of this fact at once suggests the employment of the stethoscope as a source of diagnostic information in doubtful cases of ruptured uterus; but it is more particularly valuable in distinguishing some other accidents and complications from this graver one, with which they may be confounded from their possessing many symptoms in common. To explain this more clearly, I shall briefly narrate the particulars of three of these cases, each of which occurred in the Lying-in Hospital, under the observation of many witnesses. For permission to cite these cases I must here express the sense of obligation I am under to Dr. Johnson, under whose immediate observation the facts of each of them passed.

Case IV.—A woman, aged 34, was admitted in labour of her seventh child, December 9th, 1844. Two of her children had been dead-born at the full time. Matters progressed slowly, so that six or seven hours were consumed in the first stage of

quires to have the result stated, and the extent of the laceration more minutely described.

(*a*) Op. cit.

her labour. Two hours after this she began to vomit in large quantities a dark-coloured fluid, precisely resembling coffee-grounds; and the pains, from having been strong and regular, became weak and transient, and then ceased altogether. Her other symptoms at this time were the following: the pulse was feeble, and rather accelerated; the fœtal head was high up, just at the pelvic brim, and she herself was desponding and full of gloomy apprehensions as to the result of her illness. I need hardly say that such a group of symptoms, occurring in a seventh labour, was sufficiently formidable, and well calculated to create the impression that some of the structures of the uterus had given way. Upon exploring with the stethoscope, however, we were much gratified at finding the fœtal heart pulsating with its usual strength and frequency, and, in fact, possessing its normal characters. Relying in a great measure upon the correctness of this indication (of the non-existence of rupture), no active interference was had recourse to, and after eighteen hours of nearly complete suspension of uterine action, the pains recommenced, and she gave birth to a strong and healthy female child. This patient recovered slowly, but perfectly, and was discharged from the hospital on the fourteenth day.

In this instance the great practical question was, whether any laceration had taken place or not, as, if it had, every moment's delay in delivering her took so much from the chance of her recovery. I have mentioned that on this question a negative conclusion was come to, chiefly from the fact of the fœtal heart's pulsations continuing unaltered, and the sequel of the case fully confirmed the diagnosis.

Case V.—In this case the labour was rendered difficult, in consequence of the existence of a firm band at the upper part of the vaginal canal, the result of inflammation and sloughing in her previous confinement. Some time after the full dilatation of the os uteri, the pains, which had been exceedingly violent, abruptly ceased, a discharge of blood took place from the va-

gina, the pulse fell, and the woman became weak, and vomited. On examination it was found, that not only had the band given way, but also that the head (which was presenting) had perceptibly receded. This combination of symptoms excited strong fears that some laceration of the cervix uteri had taken place, a complication, I may remark, much to be apprehended in such cases as this, and of which Dr. Collins' fourth case furnishes a good example(*a*). Upon making an auscultatory examination, however, the fœtal cardiac sounds were distinctly audible, and possessed their ordinary characters; and from this circumstance mainly it was inferred that the uterus was not implicated in the laceration, which opinion was verified by the result. The fœtal heart subsequently ceased, though not for several hours, and then apparently in consequence of the duration of the labour. She was ultimately delivered with the perforator and crotchet; when it was discovered that the tear extended completely through the vagina into the rectum, but did not engage the os or cervix uteri. This woman recovered, and bore children afterwards.

No comment is necessary upon this case, as it speaks for itself, and shews, in a strong light, the value of the diagnostic at present under consideration. I would beg leave to draw attention to the interesting fact of the fœtal heart being unaffected by an extra-uterine laceration so great as to rend a strong cicatrix, and throw the cavities of the rectum and vagina into one. These cases, which might be multiplied if our space permitted, will, I trust, be sufficient to shew the nature and extent of the diagnostic information derivable from auscultation in all instances of a similar kind.

Case VI.—The subject of this case was a healthy young woman, who was admitted into the Lying-in Hospital, September 29th, 1845, in labour of her second child. At five o'clock, p. m., the os uteri was fully dilated, the membranes ruptured, and the pains moderate. At eight o'clock I examined

(*a*) Op. cit., p. 297.

her with the stethoscope, and heard the fœtal heart in the left iliac region; at this time she was going on most favourably in every respect. At ten o'clock Dr. Hardy, my coadjutor, and I were hastily summoned to the ward in consequence of a sudden alteration in her appearance. We found her extremely faint; the pulse feeble and rapid; the pains very slight; and the child's head seemed to have somewhat receded. The most careful exploration with the stethoscope now utterly failed to detect the sounds of the fœtal heart. From this combination of symptoms it was concluded that the uterus had given way, and the treatment was regulated accordingly. This poor woman died in thirty-one hours after delivery, and dissection revealed an extensive rent on the left side of the cervix uteri, involving all its textures, but not implicating the vagina. I have adduced this case chiefly to shew how soon the child may be destroyed by rupture of the uterus, as there was no great difficulty in the diagnosis. In Dr. Collins' thirty-first case (p. 267) the same fact was proved in a manner equally demonstrative, for the fœtal heart had ceased to be audible within ten minutes after the occurrence of the laceration.

In the histories of the three cases just related I have been as brief as possible, and have almost solely confined myself to those points which had reference to our present subject.

In the management of labours complicated with convulsions it is often of importance to know whether the child be alive or dead, and the stethoscope may occasionally be of service in deciding this point. The principles of diagnosis here are, of course, the same as in tedious labours, but I must confess that the jactitation and restlessness so common with these patients generally proves a very great or insuperable obstacle to making any satisfactory auricular examination. When a woman is seized with convulsions at the seventh or eighth month of pregnancy, and that the attack is subdued without the immediate supervention of labour, we shall be anxiously asked by the patient and her friends, whether the child has

been destroyed, and whether gestation is likely to proceed undisturbed. Now these, to a certain extent, are important questions, and the latter of them cannot well be answered without knowing the solution of the former; for if the child be alive, there is every probability that she will go to the full term (unless, indeed, the convulsions should recur), whereas, if the child be dead, we may pretty confidently expect labour to come on within ten days or a fortnight(*a*).

I have now mentioned the chief occasions on which we have found auscultation of the fœtal heart to be of service in the treatment of labours; it yet remains for me to make a few practical observations regarding the placental soufflet, and the use of the stethoscope with still-born children.

It has been asserted that, after the death of the fœtus, the placental soufflet either ceases altogether, or undergoes a change of character recognisable by the ear of a practised auscultator. It is very much to be wished that such were the case, as then we should be in possession of a *positive* sign of the child's death. But candour obliges me to confess, that after making innumerable trials, and having bestowed considerable attention on the point, I have never yet been able to detect any peculiarity in the *brûit placentaire*, by which I could be led, in the remotest manner, to suspect that the child was dead. Nægèlé, in his treatise upon "Obstetric Auscultation" (translated by West), has also expressed himself to the same effect. So far as my experience enables me to judge, the only useful information it is capable of affording (independent of its evidence of the existence of pregnancy), is in those cases of flooding before delivery, in which we cannot ascertain by the

(*a*) There seems to be a curious law of the animal economy by which it is ordained that, after the death of the fœtus, the uterus should not take on expulsive action for ten or twelve days, or sometimes a fortnight. How to explain this I am quite at a loss; but, from very extensive observation, I am satisfied of its general correctness. It was first remarked to me by Dr. Johnson, and I am not aware that any author has taken notice of it.

usual means the exact nature of the hæmorrhage: in other words, whether it be accidental or unavoidable. Under these circumstances, the use of the stethoscope, by acquainting us with the site of the placental attachment, may, as Nægèlé says, dispel all the obscurity of the case. Examples of this doubtful kind are certainly not common, but, on a few such occasions, I have seen the stethoscope advantageously employed; and Dr. Churchill informs me, that, under similar circumstances, he has used it with a like satisfactory result. This decisive evidence is not always to be expected, however, for the placental murmur may not be heard at all, though this is extremely rare; or it may be heard in such a locality as would still leave it uncertain whether the placenta was presenting or not; nevertheless, in all doubtful instances, its careful employment should never be omitted.

M. Stoltz (of Strasburgh) has described a uterine sound, which he only observed when the child was dead, and which he attributes to the decomposition of the liquor amnii. He characterizes it as "*un bruissement sourd et irregulier, comme un bruit,*" &c.(*b*) This sound, or any thing approaching to it, I have never heard.

Nægèlé noticed, in some few cases of hæmorrhage from presentation of the placenta, a singular peculiarity in the character of the soufflet. "The sound," he says, "was of ordinary intensity in the inguinal regions, but extended thence over the whole uterus, and even the smaller ramifications seemed to concur in its production."(*c*) This I never observed, though on several occasions I auscultated the uterus during, as well as before and after attacks of hæmorrhage depending on the implantation of the placenta over the os uteri.

Dr. Kennedy has attached a high value to the use of the stethoscope, for the certainty with which it enables us to pronounce upon the actual condition of still-born children; and we entirely concur in the truth and importance of his remarks

(*b*) Cazeaux, *Traité de l'Art des Accouchements.* (*c*) Op. cit.

upon this subject; for we have seen many children resuscitated, with whom *the pulsations of the heart, as detected by mediate auscultation*, had been the only proof of lingering vitality at the time of delivery. What the effect of such evidence should be on the physician's conduct I need not say; but it would undoubtedly prove a source of much encouragement under circumstances otherwise apparently hopeless, and at a time when he must be oppressed with the consciousness that the result of his endeavours is looked forward to with the most intense anxiety and solicitude. In thus viewing the heart's sounds as furnishing the latest proof of the existence of the vital principle, it forcibly reminds us of Harvey's celebrated dictum respecting the circulation, "primum vivens, ultimum moriens."

We have seen many infants restored to animation, in whom respiration was for a long time suspended, yet we never saw a single instance where the slightest symptom of vitality could be produced, if the heart's pulsations had ceased to be audible when the child was born, which is only what might have been expected. I think it may be safely asserted, that, had the stethoscope been used, no such accident could ever have happened, as a doctor ordering a child to be removed as dead, which afterwards reanimated without any assistance.

In some still-born children the pulse was so low as 55, but by prompt and judicious means animation was restored, whilst in other instances I have seen the pulse rise from this low rate to upwards of 100, under the employment of artificial respiration, &c., but as soon as this was stopped, the velocity of the circulation would quickly diminish, again to become accelerated on inflating the lungs; and thus I have seen matters go on alternating for two hours and upwards, and yet the great object of our exertions not be ultimately attained. Such cases as these (of which I have witnessed many) are but repetitions of the celebrated experiments of Vesalius, Hooke, and Brodie, by which they demonstrated that artificial respiration

could keep up the circulation for a long period after animal life had been completely destroyed.

I shall now briefly sum up, in the form of aphorisms, the chief points of practical interest contained in the preceding memoir, first reminding the reader that upon each point I only speak with that degree of confidence which my personal experience and observation warrant.

1. Where the fœtus is alive, the sounds of its heart may be always detected at some period of the labour, by any one of ordinary proficiency in obstetric auscultation.

2. The precise region of the abdomen in which the fœtal heart is heard, affords auxiliary evidence of the position of the child *in utero*, but can never be relied on alone for determining this point, or supersede the necessity for vaginal examination.

3. In presentations of the lower extremities, whether it be breech, foot, or knee, the fœtal heart is usually heard most distinctly in the vicinity of the umbilicus of the mother.

4. Conclusive auricular evidence of the existence of twins *in utero* is only to be drawn from the inequality in the number of the beats of the two fœtal hearts, and not merely from any difference as to their respective positions.

5. If, in the course of a tedious or difficult labour, the fœtal cardiac sounds, from having been distinct and clear, gradually become feeble and obscure, and ultimately inaudible, even with every precaution against deception ; under these circumstances, their absence is entitled to rank as positive evidence of the child's death ; but without the previous successive examinations this conclusion would be destitute of any positive character.

6. In cases where ergot of rye has been given to hasten delivery, auscultation of the fœtal heart is the only certain way by which we can know when the medicine is commencing to exert an injurious influence upon the child ; consequently the stethoscopic indications are alone entitled to confidence for

determining the exact time when the state of the fœtus calls for and justifies interference.

7. In cases simulating rupture of the uterus, the persistence of the fœtal heart's sound is a strong proof against the occurrence of the accident, and the more advanced the period at which they are audible after the setting in of bad symptoms, the more conclusive is the evidence that rupture has not taken place ; whilst, on the other hand, the sudden cessation of the fœtal pulsations, where they had been distinctly audible a short time previously, would strongly corroborate other existing symptoms of laceration of the uterus.

8. After an attack of puerperal convulsions in the seventh or eighth month of pregnancy, where labour has not immediately supervened, the prognosis should be very much regulated by the state of the fœtus; for if it be proved by the stethoscope that the child is alive, we may venture to hope that gestation will go on undisturbed (unless the convulsions recur); whereas, if the child has been destroyed, its expulsion will take place, most probably, in ten or fourteen days from the date of the convulsive attack.

9. No certain conclusion regarding the state of the fœtus can be drawn from the characters of the placental soufflet.

10. In cases of flooding before delivery, observation of the placental bruit may supply useful diagnostic information, by pointing out the part of the uterus to which the after-birth is attached, and thereby shewing whether the hæmorrhage be accidental or unavoidable.

11. Auscultation of the heart in still-born children more accurately acquaints us with the state of the child's vital powers, than any other source of information, and is, therefore, well deserving of employment in all such cases.

Art. III.—*Observations upon Urinary Fistula.* By William Colles, F. R. C. S. I., Surgeon to Dr. Steevens's Hospital.

The term urinary fistula is applied to that form of disease which consists in a communication existing between the canal of the urethra and the external surface, by means of a fistulous passage; and as this fistula generally opens in the perinæum, the disease has been termed "fistula in perinæo." But we must at once perceive the impropriety of adopting a name which would render necessary the division of a disease into two classes, differing from each other only in a very trivial and unimportant point; for whether the fistula opens in the perinæum or scrotum, over ramus of the pubis, in the thigh, or beside the sacrum or anus, —in all of which situations the external opening has been found, —it can make little or no alteration in our diagnosis or treatment.

Of these urinary fistulæ we may distinguish two very distinct forms: one having its origin in a purely local cause, and the other constitutional. The former may arise from an obstruction to the free passage of the urine through the urethra; and as it is that form which is chiefly noticed by authors, we shall first consider some points in connexion with it. This obstruction may be caused either by a stricture of the urethra; or it may be a consequence of rupture of the canal, which, being torn across, has been allowed to unite obliquely; or it may arise from a total obliteration, owing to sloughing or ulceration of a portion of the canal.

When the fistula is a consequence of stricture, it is generally found in those cases in which the stricture has been neglected, allowed to become very firm, hard, and close, or when it has been improperly treated by the too frequent or too forcible introduction of instruments, or by the incautious application of caustic.

The disease commences by the formation of an acute ab-

scess, attended with considerable fever and constitutional disturbance, increased frequency in the calls to pass water, and increased difficulty and straining in evacuating the bladder, attended with severe scalding pain in some one spot of the urethra. The patient complains of a considerable swelling in the perinæum, which prevents the urine flowing, and obliges him to keep the legs wide asunder, as any attempt to close them would be attended with great suffering from the pressure on the abscess. Hence he must lie constantly on his back, with the knees flexed and far apart. On examining the part, we find a general fulness in the perinæum, not amounting to a circumscribed tumour; sometimes a blush of redness, but often no discolouration of the integuments. No sense of fluctuation is afforded to the fingers, but rather a boggy feel, amounting at times to that œdematous state which retains the impressions of the fingers. The abscess, being bound down by the fascia, wants the distinctive marks of a common superficial abscess.

Here we cannot wait for the abscess to point or become more evident, we must open it at once and freely. The urine will pass through the incision, sometimes immediately after, and sometimes not for two or three days.

The opening gradually closes, till there only remains one large granulation through which the urine flows; the parts round the fistula become consolidated and hard; the skin puckered, giving the appearance of a neck round the orifice; and the fistula comes to be lined with a peculiar membrane, and is permanent.

The theory offered to explain the formation of the abscess is this, that from the narrowing of one point in the urethra, and the consequent increased force required to evacuate the bladder, the urethra comes to be dilated immediately behind the stricture; that here a drop or two of urine constantly remains; this produces irritation, and finally ulceration, in the

spot; that the urine escapes through this ulcer into the cellular membrane beneath, disorganizes it, and thus causes the abscess.

This theory may explain the origin of this abscess in many cases, but it cannot apply to all. Thus we at times find the internal opening of the fistula to exist on the upper or pubic surface of the urethra. Again, we often find it at a considerable distance behind the stricture and the dilated portions of the urethra. If this explanation were true we would have the pus, when fully formed, passing through the urethra, and the case often ending in the formation, if we may be allowed the term, of a "blind external fistula." We should also much oftener have extravasation of urine, for the abscess causes increased straining, and increased difficulty in the evacuation of the bladder, and, if the ulcerated opening exists, it must afford a ready exit to the urine. Neither can it account for the fact, that we in general do not find urine pass through the incision till two or three days after the abscess is opened. Or again, why is it that the abscess, when opened, will sometimes heal and remain closed, no urine passing through it!

We are told that the disease, when fully formed, is easily distinguished, by a red papilla in the perinæum, with surrounding hardness; and that when the patient passes water the urine will be seen to flow through it. This is not, however, always the case, for the fistula may open near the anus, and be so small and tortuous that the urine will not appear externally till some time after the act of micturition shall have ceased. We have known a patient make water before leaving home, and not perceive any urine pass through the fistula till he had walked two or three streets, and we came to examine and make pressure on the fistula.

My father was in the habit of relating a case in which he could not discover, on the closest examination, any fistulous opening; when the patient undertook to convince him that such really did exist, he wiped the perinæum dry, applied a

piece of blotting paper to it, passed water, and then shewed the stain on the paper: the quantity could scarcely have amounted to a drop, and the opening could not be seen, yet the man suffered as much annoyance as if the disease was much more extensive.

In examining these fistulæ we cannot, as in fæcal fistula, rely on the probe as a satisfactory guide; for though it will sometimes pass through the external opening and touch a solid instrument in the urethra, yet, in the majority of cases, the course of the fistula is so tortuous, and leads off in a direction so distant from the urethra, that no probe can follow it in all its windings. Hence arises the great difficulty to trace and discover the exact situation of the internal orifice of the fistula, which, if we could find, would often afford us most material assistance in our further proceedings.

In speaking of the treatment of the disease, surgeons tell us that the urine, constantly flowing through these fistulæ, alone prevents them from closing; and, therefore, it will be necessary to prevent this, and that it can only be effected by causing the urine to pass through a hollow instrument, either constantly worn in the bladder, or introduced every time the patient wishes to pass water: and that this and this alone can effect a proper cure. This is certainly a severe method of proceeding, and not always necessary or successful; and by it we confine the patient to his bed or to his home for five or six weeks, and we often find his health become seriously impaired from the confinement. The constant presence of the instrument causes irritation, inflammation of the bladder and urethra, frequent calls to pass water, straining, and mucous deposits, with some streaks of blood in the urine. If we still persist in retaining the instrument, the patient is likely to be seized with that form of fever denominated "urinary fever," a most severe and often dangerous complication. If we resort to the introduction of the instrument every time the patient wishes to pass water, we often find we do more harm than good: we

irritate the urethra, the introduction of the instrument becomes more difficult, and we find, after a time, the stricture much increased in extent, irritable, and close, or that, perhaps, other strictures and fistulæ have appeared.

Hence I would say, that as the stricture is the cause of the fistula, we should direct our chief attention to the removal of it by the simplest means : if we introduce a catheter or bougie perhaps every second or third day, we will find that according as the stricture is dilated the fistulæ will close, less urine passing through them each time. If we find this method fail, after a fair trial, we can then resort to the constant wearing of a catheter, when the urethra will have become more accustomed to its presence.

It has been at times found that even where the catheter has been constantly worn, the fistula has made little or no progress towards healing, although the urethra has been fully dilated, and not a drop of urine has passed through the fistula for several weeks. Here, if we remove the catheter, and allow the patient to go about, we will find, when, perhaps, we are considering about our further proceedings, an evident improvement in a few days; the discharge both of urine and pus from the fistula becomes less, the surrounding hardness disappears, and the case goes on to a complete cure.

We are by some recommended, in order to expedite the closing of those fistulæ, to use various caustic applications; but if we use a solid caustic we find we cannot get it much farther than the external opening, as the canal is so small and tortuous ; and to be effectual it should be applied to the internal opening. And when we consider the course of these fistulæ, and the force that would often be required to drive an injection to the urethra, a surgeon would dread the fluid caustics becoming extravasated into the cellular membrane, and producing incalculable mischief.

Reasoning from analogy of fistulæ in ano, we have been told to divide these fistulæ into the urethra, and make them

heal from the bottom; but we will find very little analogy between the two operations, and besides, we cannot find, and therefore cannot divide, the internal orifice of these fistulæ.

The various methods recommended will sometimes fail in effecting a cure of the disease, and we are obliged to resort to an operation. This may become necessary, either from the nature of the obstruction preventing the use of an instrument,—being one of those strictures which close so rapidly as to lose, in one or two days, the labour of weeks; or of that broad, cartilaginous kind, which will scarcely yield to any instrument; or from the continuity of the canal being completely interrupted, either from the total want of a greater or less extent of urethra, from sloughing or ulceration; or from the torn ends of the canal having united obliquely and irregularly: or it may become necessary from finding the patient's constitution suffering, urinary irritation succeeding, fresh fistulæ forming, and, perhaps, diseased bladder threatening, in consequence of the continued existence of the disease. From reading the works of authors we would be led to suppose the necessary operation a simple one, and easily performed, yet when we come to practise, and see the practice of others, we find it to be a most tedious and difficult proceeding; and we have known the patient put to bed, after being on the table a great length of time, the surgeon not being able to attain his object.

In this the great, and sometimes unattainable object, is to reach the urethra behind the stricture, when an instrument will not pass the obstructions from before. Here we have nothing to guide us to the part. Our knowledge of anatomy is of little avail, the parts are so thickened, hard, and altered in structure,—being often like cartilage,—that they close on the knife after each incision: if we dilate the wound by means of spatulæ, we can only apply them to the superficial integuments; —the urethra does not form a rounded tube, it is contracted, the opposite sides lie in close contact, and can with difficulty be distinguished. The corpus cavernosum of the penis, a fis-

tula, or even the ramus of the pubis, have been cut on, and mistaken for the canal.

We have been told to pass a staff down to the stricture, cut on this, and then divide the stricture: but when the staff is held pressed on the stricture, our incision sets it free, it slips out of the urethra, and we cannot again apply it to the exact spot it previously held. This plan may, however, succeed when we have a skilful and attentive assistant, who passes the staff to the stricture, draws up the penis well upon it, and then steadily presses the staff, not on the stricture, but against the arch of the pubes; thus, when we cut on the end of the staff, the parts remain fixed, and the staff and stricture retain their relative position; we then direct the edge of the knife so as to divide the stricture beyond the point of the staff, and we sometimes find that the instrument will then readily pass on to the bladder.

Again, we are told that we will reach the urethra by following the course of the fistulæ; but they are often so tortuous, and in such number, that no probe or knife can follow their windings.

When the fistula is single, and all, or most, of the urine passes through it, we will, at times, be able to dilate the fistula till we can pass a small gum elastic catheter into the bladder, and then proceed to the further steps of the operation. My colleague, Mr. Cusack, lately succeeded in restoring, by this means, a urethra which had been previously torn across by a fracture of the pelvis.

When we cannot, by any of the methods recommended, find the urethra behind the obstruction, we must resort to a more tedious operation. We place the patient as in the operation of lithotomy; use no staff or instrument in the anterior portion of the urethra; let an assistant hold up the penis and scrotum, but make no pressure; leave the parts as much as possible in their relative positions; make a free incision along the

raphe of the perinæum; deepen the incision by cutting always in the same line till we have got through a depth of parts previously calculated on, recollecting that the apparent depth at which the urethra lies is much increased by the hard and unyielding nature of the altered structures through which we cut. Sometimes we will feel, by the want of resistance to the point of the knife, that we have entered the urethra; often we have not even this to guide us: however, having carried the incision deep enough, we proceed to search for the urethra. The eye will seldom be able to distinguish it at the bottom of the incision; sensation, conveyed by the finger, or a bent probe, will often inform us if we have to cut deeper, or the probe may enter the opening in the urethra, and pass on to the bladder. We are told, by desiring the patient to pass water, that we will perceive the opening in the urethra, if it has been effected; but it is seldom that a patient, suffering under a protracted operation, can direct his attention to exert the combined actions necessary to this evacuation, and even if he did, we can see the urine welling up, and filling and overflowing our incision, but we fail in seeing the opening in the urethra from which it issues. Having got the probe passed, and on it directed a gum elastic catheter, into the urethra, behind the stricture, the remainder of the operation is, comparatively, simple. Pass a probe from the incision up the urethra, till we arrive at the obstruction; then introduce a staff into the anterior portion of the urethra; divide the parts between the two instruments, until one will freely pass into the portion of canal occupied by the other; then cut off the head of the catheter, which is lying in the bladder, fix this anterior portion of the catheter to the end of the probe, and thus pass it through the orifice of the penis. In two or three days' time we will be able to introduce a larger instrument into the bladder, the stricture will be removed, and the parts will heal gradually and firmly.

Such is the form of fistula arising from obstruction, generally the only one, noticed by surgeons(*a*). Yet we often meet with the disease arising from a local cause, but not from stricture. In a former communication I related some cases where fistula was connected with disease of the prostate gland, and there a large-sized catheter would readily pass. Fistula is seen connected with ulcerated opening of the neck of the bladder, and other diseases of that viscus, or with a large abscess situated between the bladder and pelvis. It has followed, at times, some rough or awkward introduction of instruments, where there has been reason to fear a false passage has been produced. We also have seen fistulæ where no cause could be assigned for their appearance. This latter form generally arises far back in the urethra, runs close to the rectum, and will sometimes open into that viscus, and thus materially add to the patient's sufferings; for every time he goes to pass water, some of it will escape into the rectum, and will either run down the thighs, or the patient must evacuate it as if at stool.

In this form of disease, of course, our first endeavour should be, from the symptoms, and an accurate examination, to discover the original disease, and try to remove it, for till it is cured little can be done with the fistula; till when our efforts to remove it by the ordinary methods will, we regret to say, too often fail.

We will sometimes succeed by making the patient wear the catheter; sometimes the operation will cure it. And here the proceeding is simple, for we can readily pass a staff into the bladder, and thus have a sure and evident guide to our incision; we can readily divide the fistula and urethra, and make the wound heal from the bottom. Yet in this form of fistula the operation must oftener fail than in the former case. It may heal for a time, but will be liable to return on the slightest provocation.

(*a*) Dublin Journal of Medical Science, vol. xxvii. p. 372.

I relate the following as a well-marked case of some of the difficulties attending this form of disease.

Mr. D., aged 45, has been for twenty years labouring under urinary disease, which he attributes to a surgeon who treated him for stricture, forcibly introducing the catheter, and making a false passage, since which time he has however enjoyed months of comparative ease, followed by weeks of urinary irritation. His present attack commenced, two or three weeks since, by rigor, followed by profuse perspiration, and passing large quantities of purulent mucus, with great pain. The urine flowed, not in a stream, but drop by drop, with such straining as often to bring on a discharge of the contents of the rectum; this was followed by a swelling in the perinæum, close to the anus. It was opened, and in a few days the urine passed through it. He then complained of what he called a spasm of the rectum every time he passed urine; this was very severe, and would last two or three minutes; soon after he found some urine pass into the rectum, so that it either ran down his legs, or he was obliged to pass it off as if at stool. In London, Sir A. Cooper taught him to pass the catheter himself. During all this last attack he could pass a full-sized silver catheter, No. 12, with the greatest ease, but he remarked, that before the instrument reached the bladder, the urine would pass off, and most of it through the fistula. He then endeavoured to keep the gum-elastic catheter in the bladder, but he now found, no matter what was the size of the instrument, that towards the end of the evacuation he would be forced to strain, and the urine would pass by the sides of the instrument through the fistulæ.

These means failing, the operation was had recourse to. A large staff was introduced into the bladder, the fistula and urethra divided on it, the incision carried on to the prostate gland, and the wound made to heal from the bottom: yet it was not till some time after that the parts became consolidated.

Having now described the form of fistula which arises either from obstruction to the free passage of the urine, or

where the urethra is free, still has a local disease as its cause, I will next proceed to consider another form which was first noticed by my father in his clinical lectures, and has not received the attention it merits. It differs materially in its symptoms and treatment from those already mentioned, which may be considered as local: this form being more intimately connected with a deranged constitution.

If the patient be an intelligent man, who can give a clear account of his disease, we learn from him that the formation of matter in the perinæum was not attended with any inflammatory fever, nor with the throbbing, severe pain usually attending acute abscesses; but he will tell us that he, perhaps, occasionally noticed some scalding in micturition, some small tumour in the perinæum, which did not give him much uneasiness, or attract his attention; and that the progress of the abscess was slow, a considerable time existing between its first appearance and its opening. At times the patient will have no knowledge of the existence of the abscess till it bursts, or arrives to a very considerable size. He will tell us that he enjoys good health, but on a closer inquiry we will find that he has been for some time in a low, feverish state. His pulse is much quickened; he has considerable thirst, with slight impairment of his appetite, and loss of flesh, probably more remarked by his friends than by himself; when questioned, he often declares himself in perfect health; the countenance is pale, with, probably, a tinge of yellow; the nails do not exhibit the healthy state of the subjacent part, but resemble a thin, transparent layer of ivory, laid on a surface of a purple hue. In many such cases there is some affection of the chest, generally cough, with copious expectoration, some distress in breathing, particularly when attempting any extra exercise.

If we turn our attention to the local appearances, we observe the orifices of the fistulæ rather patulous, but no fungous papillæ projecting from them; there is very little hardness round the openings, or leading from them; and no puckering

of the skin, forming a kind of neck round the orifice. They generally exist in great numbers externally, and appear as if punched out of the skin; but we seldom find more than two openings internally. If we introduce a probe into one of the openings, we find it passing away from the urethra; often, from the same opening, it will run in different directions. When we come to examine the urethra of the patient, we cannot discover the existence of any stricture; and we can pass a full-sized catheter into the bladder without meeting any obstruction. Such is the history we receive from the patient, and such are the symptoms we observe in the form of disease, and we see that in both respects it differs materially from that previously described. In the one the general health is good; the abscess commences with inflammatory fever, is acute in its course, and causes much suffering; the fistulæ are few in number, marked by a red fungous papilla; there is an impediment in the introduction of a catheter, or evidence of some other local disease. In the other the health is much impaired; generally old chronic cough, with expectoration, is present; a low, sinking feverishness exists; the abscess is chronic, continuing for a long time, often unnoticed till it opens; the fistulæ are in great numbers, presenting merely wrinkles or perforations in the skin; the urethra is so free that a large catheter will pass readily into the bladder.

If, according to the generally received opinion and established rule of practice, we were to promise this patient to effect a cure by making him wear a full-sized catheter in the bladder, with the view of keeping the fistulæ free from any passage of urine, we would certainly have to suffer the mortification of a disappointment.

Should the surgeon be rash enough to undertake any operation with a view to the cure of the fistulæ, he would not only signally fail, but would render the state of the patient worse than before. We have known a surgeon operate in such a case, and the patient return to the country, the urine flowing

through the large wound, which had not made the slightest effort to heal. We regret that we have no mode to guide us to the successful treatment of these cases. Of course, on first visiting the patient, the surgeon is tempted, both for his own satisfaction and also his patient's, to introduce a catheter; but even this proceeding requires caution, for we know that in such broken-down constitutions this operation, performed as carefully and gently as possible, has excited urinary fever, and even led to a fatal termination. Having satisfied ourselves as to the state of the urethra, we should be cautious how we repeat the operation; for if the catheter be introduced too frequently, even should the patient escape the urinary fever, still we may induce an irritation, and unhealthy action in the urethra, which may give rise to stricture.

Our local applications will, therefore, be more with the view of alleviating the sufferings of the patient, and allaying local irritation and inflammation. If we direct him, each time he goes to pass water, to make pressure on the part, or to keep a moderate constant pressure on the fistulæ, so as to prevent so much of the urine passing through them, we will find, after a time, that some of them will become much smaller, and even close. This, and the occasional introduction of the catheter, at long intervals, should be our principal local remedies. Our chief reliance, however, must be in an improved state of the general health, and the removal, or alleviation, of the cough by those various means used in such cases, and which it is not our province here to mention.

Should we be so fortunate as to effect the removal of this, and restore the patient to good health, we shall find that the fistulæ will close almost without any local treatment; if not, we will have him in a condition to bear the application of such other measures as we would expect to succeed.

We will find, in too many of those cases, that the chest affection, or other organic lesion, will go on, and in the end, phthisis, or hectic fever, will carry off the patient.

By way of illustration I select two out of a number of cases of which I possess full notes, both being examples of this form of fistula, though differing in many minor points.

Mr. E., aged 40, an active, country gentleman applied to me some time ago. On removing a large linen cloth which was wrapped round the penis and scrotum, and wiping away a most profuse discharge of purulent matter, I saw a number of fistulous openings, commencing at the glans penis, and extending to the anus, six or eight in front of the scrotum, and from fifteen to twenty behind it: they appeared as if punched out of the skin. When he passed urine some of it flowed through each of these openings, and was a cause of considerable annoyance, but he did not complain of any painful condition of the parts. He was naturally of a dark yellow complexion; this now contrasted strongly with the pearly whiteness of the tunica adnata of the eye; the nails were of a purplish colour, and much curved; he was naturally of a spare habit of body, but was now perceptibly wasting in flesh; breathing not much disturbed, yet he had a good deal of cough, with a copious, free expectoration; pulse very quick; had much thirst; appetite, however, good. He gave a very indistinct account of the manner in which the complaint began; he never had any retention of urine; the formation of the abscess took place without any severe inflammation or pain in the parts.

He was most anxious to commence a course of bougies, having been told by his surgeon in the country that this would effectually cure him. After the occasional cautious introduction of the catheter, I determined to leave it in; and confined him to bed. After some days his lungs became more oppressed; fearing to persevere, I allowed him at first to move about the house, then to enjoy carriage exercise, at last to walk about with the instrument in the bladder; his cough evidently improved, though he exposed himself to cold and wet during the winter.

For nearly five months matters went on thus; the fistulæ

shewed no amendment, though the urine invariably passed entirely through the instrument; he refused to leave town, or to learn to pass the catheter for himself.

About this time, on changing the instrument, I observed that the linen which he kept round the genital organs appeared much less imbued with matter; and he said he remarked the same thing himself during the previous fortnight.

On each subsequent change of the catheter we remarked the further decrease of the discharge, and the lessening and final closure of the fistulæ. On closely observing the general health, I could also here perceive an amendment. The cough was less troublesome, the expectoration less copious, the circulation less languid: and that he had put up some flesh. In a short time the fistulæ were perfectly healed. He hunted regularly that winter; and soon after got married, and has had no return of his urinary complaints.

Here is a case of fistulæ existing to an enormous amount, without stricture, or other local disease; the local treatment did neither harm nor good; but when the general health began to improve, the fistulæ commenced to close at the same time. The very slight disturbance which the constant wearing of the catheter produced, is also very remarkable. The parts and the constitution seemed perfectly insensible to its presence.

Mr. K., aged 58, applied in July, 1845. Naturally of a spare habit; life sedentary; for many years subject to cough, attended with profuse expectoration. Says that twenty years ago he had been subject to stricture, and was since in the habit of passing an instrument for himself occasionally, but had neglected it the last winter. About a fortnight since, on going to London, he was much distressed during the passage by frequent discharges of urine and fæces. Next day he was obliged to pass water every half hour; and at Birmingham he was seized with retention of urine. He now, for the first time, perceived a tumour in the perinæum; the catheter was readily passed, the urine evacuated, and the abscess was opened. He then returned to Dublin.

When I saw him the greater portion of the urine passed through the fistula; there was a considerable discharge of matter from the urethra; and the calls to pass water were very frequent. I readily passed a middle-sized catheter into the bladder; this was followed in the evening by a rigor, and profuse perspirations; I introduced the catheter easily again in eight days, and repeated it occasionally till August, when the quantity of urine passing through the fistula was much diminished. He went to the country for six weeks, where he had a bougie passed almost daily. I now found the urethra, at the site of the fistula, had contracted so much that only a small catheter would pass. The cough considerably improved; but during the winter following it returned with increased severity, and finally proved fatal.

This case is worthy of recording, as shewing the very insidious manner of the formation of those abscesses, for the patient did not perceive it till a few minutes before it was opened; it also shews us that the catheter may be introduced too frequently, and do much mischief.

Thus we perceive that there are two distinct kinds of urinary as of fæcal fistulæ: one form local, acute, and requiring active treatment, and often operation; the other, depending on the deranged state of the constitution, not permitting much local interference, and entirely forbidding any operation for its cure. It can only be relieved by constitutional treatment.

Art. IV.—*The Propriety and practical Utility of classifying Hooping-Cough among the Exanthemata, with a new Theory of that Disease.* By James F. Duncan, M. D., F. K. & Q. C. P., Extra Physician to Sir Patrick Dun's and Mercer's Hospitals; Lecturer on the Practice of Medicine in Park-street School, &c.

It cannot be denied, by any one at all acquainted with recent medical writings, that very little attention has been given of

late to the study of nosology. That such a circumstance should occur, at a period preeminently distinguished for the enthusiastic devotion with which every branch of medical science is cultivated, as well as for the number of brilliant discoveries to which that devotion has necessarily led, may naturally excite surprise. These discoveries, arising, as they have done, from the combined possession, by the same individuals, of purely professional knowledge, with those attainments in general science that constitute a liberal education, would lead us to expect that a scientific classification of diseases would occupy a considerable share of attention in the minds of men thus qualified to undertake the task.

Various reasons may be adduced to account for a result so little to be anticipated. In the first place, it is not improbable that the exclusive solidism which has prevailed in the schools till a very recent date may have contributed in no little degree to this neglect, because it referred every variety of disease to the one pathological condition, namely, inflammation, and accounted for the difference of the phenomena simply by the peculiarities arising from the particular textures or systems in which the inflammation happened to be seated. It hence became a matter of comparative indifference, in what order the particular lesions were arranged, partaking as they did of the same essential nature.

Another circumstance, perhaps, no less efficient in bringing about the same result, is to be found in the habit, daily becoming more general, of authors confining their attention to a specific subject, and so publishing monographs, instead of large works upon medicine as a whole. Even these last, from the form they have now assumed, namely, that of cyclopædias and libraries, consist rather of detached essays, collected together and arranged alphabetically, than of a comprehensive treatise, the labour of an individual, and exhibiting the unity, method, and completeness to which such a course necessarily leads. In making this remark I do not mean to undervalue either of the practices referred to, and which have contributed in no small

degree to raise our knowledge of medicine to the high position it at present occupies, but simply to convey my impression that it has led to the neglect of nosology.

But, perhaps, the most important circumstance of all arises from the admitted difficulty of the undertaking. The earlier systems were so extremely artificial in their arrangement, and so manifestly erroneous in many of their details, as to lead to their rejection, as unsuitable to the present advanced state of medical science. But the attempts hitherto made to adopt physiological principles as the basis of the scheme, can only be regarded as an approximation to a better state of things. The obscurity of the real nature of some diseases, and the circumstance of others affecting several systems or tissues at once, render it extremely difficult to assign to them their proper position in a comprehensive and orderly arrangement.

Yet I think it can scarcely be denied, that an arrangement of diseases founded upon the real relations subsisting between them, if such could be obtained, and grouping together those which partake of the same essential nature, would be not only highly interesting in a scientific point of view, but of extreme importance in actual practice.

Many diseases, dissimilar in appearance and symptoms, partake of a nature so intimately the same, as to lead necessarily to a similar mode of treatment. A perfect classification would of itself suggest this analogy, and, like the natural systems in botany, afford the physician who is acquainted with one member of a group a tolerably correct idea of all the rest, although he may never previously have had an opportunity of seeing or treating them.

It is not my intention to prosecute this subject farther at present, than in this general way to vindicate nosology from the idea, under which it is generally regarded, of being a mere useless speculation. What I design is, to make a few general remarks upon the exanthemata, which form a very natural group of themselves, and to discuss the propriety of admitting hooping-cough into the number.

I need not say that this interesting class, so remarkable for some of their symptoms, has at all times attracted a great deal of attention; yet, it is singularly remarkable, that great diversity of opinion prevails among physicians, as to what diseases really constitute the group. Scarcely any two writers agree upon this point. And the diversity appears the greater, when we examine the nature of the affections thus compared. Some are acute, and others chronic; some are really fevers, others properly cutaneous inflammations; some are highly infectious, others not at all so; some run a regular course, in others no such regularity can be traced. This will be obvious by a single glance at some of the more important lists.

SAUVAGES.	LINNÆUS.	VOGEL.	CULLEN.
Pestis.	Morta.	Variolosa.	Variola.
Variola.	Pestis.	Morbillosa.	Varicella.
Pemphigus.	Variola.	Miliaris.	Rubeola.
Rubeola.	Rubeola.	Petechialis.	Scarlatina.
Miliaris.	Petechia.	Scarlatina.	Pestis.
Purpura.	Syphilis.	Urticata.	Erysipelas.
Erysipelas.		Bullosa.	Miliaris.
Scarlatina.		Varicella.	Urticaria.
Essera.		Pemphingodes.	Pemphigus.
Aphtha.		Aphthosa.	Aphtha.

MACINTOSH.	CRAIGIE.	LENDRICK.
Rubeola.	Rubeola.	Variola.
Variola.	Scarlatina.	Varicella.
Scarlatina.	Urticaria.	Rubeola.
Varicella.	Roseola.	Scarlatina.
Urticaria.	Erythema.	
Roseola.		
Miliaria.		

This diversity appears to me to have been caused by a too close attention having been paid to a single symptom,—the cutaneous eruption,—a symptom sufficiently remarkable in itself, but too uncertain, even in those members of the family that usually exhibit it, to be made the basis of nosological arrangement. Instead of using a single symptom for this purpose, I

think it would be better to substitute a general agreement in several; and, under this impression, I would venture to propose the following enumeration as a more natural group, although the propriety of retaining the present name may well be questioned, inasmuch as it embraces several affections in which no cutaneous eruption can be detected.

Small-pox.	Varicella.	Plague.
Measles.	Vaccinia.	Mumps.
Scarlatina.	Maculated Fever.	Hooping-Cough.

The symptoms upon which I would place most reliance are the following:

1. Running a regular course. This is admitted universally in reference to the more commonly received exanthemata, as measles, scarlatina, and small-pox. In vaccinia, also, the same regularity is observed; and even as applied to the other diseases contained in the list above furnished, I think a candid mind must allow that a regular course can be detected, if we except hooping-cough, of which we shall speak hereafter, and admit that deviations from the ordinary phenomena occur within certain limits, to as great an extent as are known to take place in measles and small-pox.

This feature essentially separates the class from inflammation on the one hand, and from fevers on the other. It is true that the advocates of critical days may maintain that the latter also run a regular course, but certainly not in the same sense as that here understood, which is a succession of daily changes in the patient's condition, corresponding to the duration of the disease, and tending to its complete resolution within a given time. Of this we have an admirable example in the progress of the cow-pock vesicle. By crisis, on the other hand, is to be understood a peculiar effort of the constitution, occurring in the patient on particular days, and which if it do not succeed in restoring him to convalescence, leaves him still in the same feverish condition in which he was previously, till the arrival of another critical day renews the attempt.

2. The almost universal susceptibility to their influence. It is true that occasional instances are met with, of persons, though frequently exposed and using no precaution against infection, resisting their attack. The consequence is, that almost every one, sooner or later, is attacked by such of them as are common; and, in the case of measles and scarlatina, the period of life at which they are usually taken is that of infancy or childhood. Were the other members of the group equally common, it is probable that every one would take them as well, and that they would take them also about the same period of life, namely, childhood or infancy.

3. They occur only once in life, a single attack, for the most part producing in the individual a power of resisting subsequent exposure to infection. To this there are occasional exceptions, but as a general rule the observation holds good. Whether the same thing takes place in common fever is a disputed point, but I believe the weight of evidence is decidedly against the admission of the point, and in periodic fevers it is well known that a previous attack, so far from protecting the constitution, actually increases the liability to a subsequent one. I believe the instances of spotted or maculated fever being taken a second time are nearly as rare as in the other exanthemata; and the plague is a striking example of the correctness of the general rule.

4. They are propagated by a specific poison. Unlike other diseases, they seem incapable of being produced in any individual, except by exposure, either directly or indirectly, to another person already labouring under the same affection. Various circumstances may concur either to augment or diminish the force of this infectious property, but they all possess it; and if by suitable regulations it should ever happen that any one of them could be extinguished for a time, we have reason to believe that it would never be revived. Of course this assertion will not account for the first development of any of the class. Each must have had an origin somewhere, and the same combination

of circumstances which at first called it into being might again occur. It is only intended that from our present knowledge of their history we have reason to conclude that, by care or attention, the whole class might in time be expunged from the catalogue of diseases.

5. They are all, probably, capable of being propagated by inoculation. This observation is certainly true of the most marked exanthemata. In some of the affections contained in the present list, the experiment has never been tried, and in others it has certainly failed. Whether the experiment was fairly tried in these cases, it is hard to say; so many little points require attention, especially when the inoculation is practised, not with lymph, as in vaccinia, but with blood, as in Home's experiments, that it would be rash to conclude from a few failures against the general principle.

6. To these may be added their being attended with fever; and I was going to say their tendency to develope tubercle in persons predisposed to it; but the latter characteristic, though sufficiently obvious in some individuals of the group, is not by any means established with regard to all.

Now if we take these general symptoms as the basis of the present classification, it must be obvious to every one that hooping-cough fulfils all the conditions too exactly to be denied admission into the number. The only objection that appears to have any force is, that it does not run a regular course, or rather that its duration is so various and uncertain as to throw considerable doubts upon the propriety of placing it with others who exhibit such a marked contrast to it.

But I speak here only of the simple form of hooping-cough; complications in any disease will necessarily interfere with its progress, and the occasional protraction of the simple form of hooping-cough will be easily understood when the theory about to be proposed has been fully explained. That the disease does exhibit regularity in its course, and that it is really *progressive*, as much so as vaccinia or measles, is proved by the fact

that a precursory stage of four or five days can always be observed before the development of the whoop, during which the patient is said to be "breeding the complaint."

The admission by Cullen, and most of the early writers, of plague into this class, will facilitate materially the object I have in view. It is, in fact, the connecting link between hooping-cough and the commonly received exanthemata; for in the plague we have an affection of the glandular system, as the peculiar element of the disease, sometimes coinciding with a cutaneous eruption and sometimes without it; but the affection of the glands is its essential feature. In mumps the same thing is observable, for here we find the parotid glands gradually swelling out in the course of a peculiar fever, and after a certain duration gradually subsiding. I need not say that all the characteristics of the exanthemata enumerated above are presented by mumps, except the cutaneous eruption. Now, with these facts before us, I think it is not theorizing too far to assume that the phenomena of hooping-cough depend upon a gradual turgescence of the bronchial glands, coinciding with and arising from a peculiar fever, the result of the action of a specific poison on the system. That a swelling of these glands is the cause of hooping-cough has been maintained already by Dr. Ley and others; but that this swelling is symptomatic of a fever analogous to the exanthemata is, I believe, now for the first time set before the public. It is easy to see that the adoption of this hypothesis will at once account for all the phenomena. Tumefaction of these glands, by producing pressure on the pneumogastric nerve, causes a reflex action through the medulla oblongata, by means of the inferior laryngeal nerve, on the muscles of the larynx, producing the complete or partial closure of the glottis, upon which the hooping depends. That an irritation of the pneumogastric nerve, in this manner, will produce this effect, I have had repeated opportunities of observing in the North Dublin Union Workhouse, where children and infants, labouring under scrofulous enlargement of the chain of

glands in the neck, passing into the thorax, and under bronchial phthisis, presented the laryngeal or croupy breathing, and where this lesion was verified by dissection afterwards. An objection may be raised to this explanation of the whoop, from the fact that such a tumefaction, if it exist, must be permanent, whereas the hoop is only occasional. This is met by supposing that the gland is capable of a certain degree of momentary augmentation or diminution in volume on occurrence of anything tending to derange the circulation. Moral impressions, which are known to bring on a fit of hooping-cough, produce vascular turgescence of the cheeks, and probably also of other parts; and that the lymphatic glands are capable of very sudden alterations of volume is proved by a remarkable case that occurred in a woman in Mercer's Hospital, about a month ago, in whom all the symptoms of aortic aneurism, continuing, however, only for a short time, were caused by an enormous enlargement of a group of lymphatic glands about the arch, but which symptoms disappeared before death, in consequence of these glands becoming reduced in size.

That this enlargement actually takes place is a position sufficiently difficult of proof; the very hypothesis proposed accounts for the difficulty. If the nature of the affection is a gradual enlargement, lasting only for a short time, and then gradually subsiding, it is plain that, even in fatal cases, we have no right to expect *post mortem* evidence of its existence, because death seldom occurs till such an interval has elapsed from the commencement, that, if the swelling subside at all, it must be expected to do so before the period of examination. It is obvious that, during life, we have no means of deciding the question either way. But I am able to state that, in numerous *post mortem* inspections of children in the Workhouse, after hooping-cough, I have been able to detect these glands in a state of scrofulous enlargement, although I am far from laying much stress upon this point, because most of our fatal cases died of consumption, into which the hooping-cough degenera-

ted, and the appearance in question may have been only a casual occurrence ; yet I can easily conceive that a set of glands enlarged during the prevalence of fever would be more likely to become the seat of a tubercular deposit, the result of that febrile action, than they would be in their quiescent state.

The admission of this hypothesis will sufficiently explain the fact that the duration, even of simple hooping-cough, is often much greater than it ought to be, on the supposition of its running a regular course; because the reduction of these glands to their natural size must be a work of time, and a great many circumstances may cooperate to retard its occurrence; among which may be enumerated constitutional peculiarities and the influence of different kinds of treatment.

We have now to consider the practical benefit likely to follow from the adoption of this view. A theoretical notion, that leads to no rational improvement in treatment, is literally worth nothing. At the same time, it must be admitted that, even in those cases where sound theory seems to lead to no immediate change in the principles of practice, great advantage must result ultimately from laying aside incorrect opinions of the nature of disease. In the case of hooping-cough, however, we have not to wait for proofs of its importance. If it be an exanthema, it will immediately occur to every one that it ought to be treated upon principles analogous to those which are found to answer in other members of the same group. The patient should be confined to his room, if not to bed, and put upon low diet; gentle aperients and diaphoretics administered until the affection has had time to run its course; after which, if the disease do not subside of itself, as it probably would in most cases, the remedies of a tonic and antispasmodic nature which are found so beneficial in chronic cases ought to be employed. Of course I speak here only of the simple form of hooping-cough. Instead of this, how common is the practice to allow the patient freely out into the open air, especially if the symptoms begin moderately and

the weather is mild, thereby interfering with the proper course of the affection, and running the risk of complicating the case by some of the more dangerous forms of pulmonary inflammation. This habit is unfortunately encouraged by the popular opinion, that nothing is so beneficial in hooping-cough as change of air; which leads some persons from the first, and many others at an early period of the complaint, to resort to this expedient; whereas it is well known to competent practitioners, that, however beneficial change of air may be in protracted cases, the premature adoption of the practice is calculated to retard rather than promote recovery.

In the same way false notions have led to similar errors, in reference to diet and regimen during the early stage, that would have been avoided had the opinion here advocated been adopted. Because the child has a good appetite and is not sick, he is allowed by many persons his usual food, and those evacuations which would have the effect of lowering the fever, and making the disease both milder and shorter, are generally neglected. Antispasmodics, too, are frequently administered before the cessation of the fever, and, consequently, do more harm than good. Finally, we can understand how it was that so much benefit used formerly to be obtained by stimulating embrocations to the back, the efficacy of which I can readily attest from several instances in which I have used them, but which, I believe, have fallen into general disuse from the abandonment or overthrow of the theories upon which their adoption was recommended. Their utility depended, when judiciously applied, not upon any effect they produced upon the spinal or other nerves, for these were not diseased, but upon the tendency they had to diminish the congestion of the bronchial glands, in the same manner in which similar frictions are used in mumps to reduce the tension and uneasiness of the parotids.

Art. V.— *Observations on Scurvy as it has lately appeared throughout Ireland, and in several Parts of Great Britain.* By J. O. Curran, M.B., M.R.I.A., Corresponding Member of the Anatomical Society of Paris, and the Society of Practical Medicine of the Province of Antwerp; Professor of Practice of Medicine to the Apothecaries' Hall; Physician to the Dublin General Dispensary.

Ireland, which for centuries has been, as it were, the laboratory of political economists, where experiments in government have been continually under trial, has of late years become equally interesting to the physiologist and physician, from the medical phenomena which it has presented to their observation. In the course of a few months six millions of people abandoned, completely and at once, the use of intoxicating liquors, to which many of them had been accustomed from their very infancy, whilst, a few years later, the entire population were compelled, by a dreadful visitation of Providence, to make, still more suddenly, one of the most thorough and decisive changes that could possibly be imagined in their articles of diet. The first only illustrated, by a new and truly grand experiment which it was impossible to cavil at, what had already been long and abundantly proved, viz., that intoxicating liquors are not merely totally unnecessary for the support of man in the most perfect state of health and vigour, but that, in almost all cases, the habitual use of such excitants may be very suddenly abandoned without producing any of those alarming consequences which were once deemed almost inevitable. The physiological results of the failure of the potato crop have yet to be learned; but as several able men have turned their attention to the subject, we may hope at some future period to arrive, among many other valuable results, at an approximation at least to the solution of the problem first enunciated by Magendie, and the satisfactory determination of which is of such

great practical importance, viz., the value of *mere bulk* alone in articles of food.

It is to the elucidation of an allied but different question that I mean at present to apply myself. Scurvy, which formerly was the very rarest of diseases in Ireland, has within the last two years been making its appearance in various towns and rural districts, and has latterly become exceedingly prevalent in all parts of the kingdom. A considerable number of cases of this disease having some time since occurred in my practice, I was led to ask my friends who had charge of hospitals whether they had met with the same affection; and I afterwards extended my inquiries to most parts of Ireland, and to several of the principal towns of Great Britain. With the most generous kindness all the officers of the metropolitan institutions to whom I applied for information at once threw open to me their wards, and afforded me every facility for prosecuting my researches. My friends in the provinces were equally kind in sending me cases and reports on the condition of their districts. In this way I have been enabled to collect, from competent observers exclusively, reports of more than six hundred cases, and a large mass of correlative information, the substance of which, bearing as it does on many difficult and disputed points in pathology and therapeutics, I shall endeavour to lay before the profession in as condensed a form as possible. It is my intention, in discussing this subject, to give first a general description of scurvy, such as I have myself met with it; afterwards to examine the individual symptoms as to their frequency, combination, &c.; and, passing then to the pathology, treatment, cause, diagnosis, and affinities, to examine *en passant* those disputed points in the history of scurvy, on which recent investigation, and the present epidemic, have thrown some additional light.

The following list exhibits the cases examined, and, with but a very few exceptions, noted by myself.

The reports of 470 additional cases, received from different parts of Ireland, England, and Scotland, with one exception,

to be mentioned presently, were but confirmatory of my own experience.

		Males.	Females.
Steevens' Hospital,	Sir Henry Marsh, Dr. Croker,	5	
	Mr. Wilmot, Mr. Cusack, Mr. Colles,	10	
Meath Hospital,	Dr. Stokes,	6	
	Mr. Porter,	3	
Sir P. Dun's Hospital,	Dr. Hunt,	4	
	Dr. Law,	5	
Hardwick, Whitworth, and Lunatic Hospitals,	Dr. Corrigan,	6	
	Dr. M'Dowell,	2	3
Richmond Hospital,	Mr. Adams,	1	
St. Vincent's Hospital,	Dr. O'Ferrall,	3	
	Dr. Bellingham,	0	3
Jervis-street Hospital,	Dr. Neligan,	1	
South Dublin Union Hospital,	Dr. Mayne,	7	
	Dr. Shannon,	4	
North Dublin Union Hospital,	Dr. Monaghan,	0	3
	Dr. Kirkpatrick, Dr. M'Clelland,	73	
Swift's Hospital,	Mr. Cusack,	1	2
City of Dublin Hospital,	Dr. Williams,	3	
Mercer's Hospital,		3	
Cases from my own practice(*a*),		10	
	Total,	147	11

PREMONITORY SYMPTOMS.

The disease, in most cases, commenced by a slow and gradual loss of strength, colour, and condition, the mind becoming simultaneously more and more sluggish and desponding. The

(*a*) Large as is the list of cases given in this table, it affords but a very imperfect representation of the number of patients affected with scurvy in Dublin at the time at which I write. A considerable number of hospitals I was unable to visit, and the dispensaries, where such patients are much more numerous than in hospitals, I have not alluded to; besides, scurvy has been decreasing in the city for nearly two months.

I unfortunately did not take notes of my own cases of scurvy until very recently: had I done so the number would be very considerable.

duration of this stage varied from a week to several months, but in some instances soreness and bleeding of the gums was what first attracted attention. In a considerable number of cases, however, the invasion of the disease was more sudden and better marked: febrile symptoms, very slight, and lasting only two or three days; or violent rigors, with all the stages well defined, and occurring many times daily for a week or more; or epistaxis, arising without cause, and often recurring; or pains, instantaneously, or gradually making their appearance in the lower extremities, the shoulders, the back, the upper extremities (very rarely), the head or neck; or spots on the legs, of all shapes and sizes, and of all the colours of ecchymoses in their different stages; or petechiæ over the lower extremities and trunk; or induration of the ankles or hams; or swelling of the legs,—were the first symptoms that induced the patient to consider himself unwell.

The phenomena present at the period when I first saw the patients may be conveniently arranged in the following groups. The classification I have adopted is, as all classifications must be, more or less arbitrary; but I think it will be found to bring together in the same category analogous facts, pretty much in the same way as they would be arranged in the mind of a physician who was about to treat the cases.

GENERAL DESCRIPTION.

1st Class.—Pallor, generally extreme, never completely absent; countenance expressive of anxiety and exhaustion; skin cool, dry, and scurfy; tongue moist and clean; alveolar margins as if beginning to be affected by mercury; or red, spongy, and easily made to bleed; or presenting a blue line scarcely distinguishable from that caused by lead poisoning; or sometimes pale and exsanguine, but never natural. The muscular parts of the legs and thighs, and still more frequently the insteps and ankles, more or less indurated, sometimes as hard as a bone, and the skin invariably immoveable, apparently from the matting together of all the tissues into one solid mass; or else deep-

seated nodular indurations, as large as nutmegs, can be felt in the calves of the legs and backs of the thighs. The parts thus affected are of the natural colour, or yellowish, greenish, or of a dusky red, exquisitely tender, and the seat of intense pains, which are more or less aggravated by standing or walking, or even putting the foot to the ground; perseverance in standing or walking often causing fainting fits; pains constant, or more frequently becoming worse at night; epistaxis frequent; bowels natural or constipated; pulse natural or frequent, and always feeble.

2nd Class.—This class differs from the previous one only in having discolourations. On examination, large yellow, red, or "black and blue" spots, of various sizes, and sometimes as large as a man's hand, are found covering the ankle-joint, the front of the leg, the gastrocnemii muscles, the popliteal space, the posterior part of the thigh, or the patella; these sites are enumerated in the order of their frequency. The colour of the spots sometimes causes them to be mistaken for erysipelas, and occasionally the whole limb, up to the middle of the thigh, is perfectly black all round. The temperature of the discolourations is generally raised, rarely lowered, and induration always exists at some stage.

3rd Class.—Anxiety and prostration strongly depicted in the countenance; pallor; the integuments flabby or œdematous; the skin dry and scurfy, and the temperature of the surface lower than in health; the gums spongy and bleeding, or rising in wart-shaped blue or blackish vascular and very fœtid granulations, perhaps above the level of the edges of the teeth, and in the mouth, forming large, fleshy masses, which bleed continually, and are easily broken off by the finger, or in an attempt at deglutition, but are very rapidly reproduced; the inside of the cheeks (very rarely) ecchymosed or varicose; tongue various, but generally moist and clean, sometimes ulcerated and deprived of its cuticle. Spots like petechiæ, but, in general, more irregular in size, and without the same vividness of colour and well-marked outline, occur frequently on the lower extremities,

more rarely on the body, and very rarely, indeed, on the upper extremities or head. Ecchymoses and variously-coloured patches, of different sizes, are observed on the front of the leg, the ankle, the popliteal space, the inside of the thigh, the buttocks, the front of the knee, the abdomen, the chest, the arms, around the eyes, or on the eye-ball itself: the four last, however, are extremely rare. Induration, such as before described, mostly attends the discolouration, but is not proportioned to it; ankle or knee-joints occasionally enlarged and giving a feeling of fluctuation; in some cases permanent contraction of the hamstring tendons with immobility of the joint. Pulse slow and feeble, or small and very rapid; bowels various, but in advanced stages we find dysentery, with bloody stools, present; urine high-coloured, never bloody; epistaxis very frequent; catching pain in left side not unfrequent; appetite rarely much impaired in the beginning; panting and breathlessness or fainting produced by the erect position, or by attempts to take exercise, generally on going out into the air, and often followed by more or less extensive sudden œdema.

4th Class.—Pains, chiefly of the lower extremities, but often affecting, simultaneously or in succession, all parts of the body. They occasionally present exacerbations, generally nocturnal, and invariably have their chief seat in the bellies of the flexor muscles, always also in the soles of the feet, rarely around the joints alone. Skin pale and dry, with only a few faint yellowish spots; the calf of one leg might be flabby and the other unusually firm, but there was no actual induration; tongue natural; gums spongy, dark-coloured, and easily made to bleed; breath never fœtid; pulse feeble, slow, rarely accelerated; anxiety and despondency always strongly marked; epistaxis frequent; urine high-coloured occasionally, but never from blood; bowels regular or confined.

SYMPTOMS.

Gums.—A diseased condition of the alveolar margin of the gums seems to be the most constant of the characteristics of

scurvy. In my experience it always came on very gradually. There were but four cases in which the gums were perfectly sound, but in fifteen or twenty it was very difficult to say positively whether the diseased condition met with was a symptom of general disease or not. The state of the gums bore no constant relation whatever to any scorbutic symptom or group of symptoms. In some of the fatal cases the gums were only spongy and vascular at the edges, and bled but little, whilst in patients (one of Dr. Bellingham's, and another of Dr. Nunn's, for instance) who were able to sit up in bed, and even to walk, and who speedily recovered on being placed under appropriate treatment, the vegetations on the gums covered the teeth on both sides, preventing the approximation of the lips and embarrassing the motions of the tongue. Sometimes pieces of the gum, but more frequently dense clots of blood which were mistaken for bits of flesh, came away during the efforts of deglutition, which, in such cases, could scarcely be attempted without producing much pain and hæmorrhage. In several instances patients stated that the vegetations had been repeatedly scraped off by their previous medical attendant, but the operation was attended with much hæmorrhage, and the vegetations were completely restored in a few days, so long as the disease was progressing. Pale or exsanguine gums were several times met with, but under no fixed conditions. Very profuse salivation occurred in two patients of Dr. M'Clelland's: the gums were spongy and bled freely, but there were few vegetations and no fœtor whatsoever. As a general rule, the fœtor only occurred where there were vegetations, or in about one-eighth of the whole number of cases. In two instances the smell of the patients' breath was of the most offensive and disgusting description, although the mouth was not affected as much as in many other cases where the fœtor was but slight. The teeth were generally loosened, and often fell out on attempting to eat; as recovery progressed the gums closed around those teeth that remained, and they became as firm as before. Some-

times the gums remained sore after the other symptoms had disappeared, but the reverse was oftener the case.

Ecchymoses, Eruptions, &c.—Both true petechiæ and spots differing from petechiæ in the irregularity of their colour and size occasionally formed an eruption which occupied the lower extremities and trunk, in but one instance appearing on the arms and never on the head. It was generally the only affection of the skin, or it (more rarely) preceded or accompanied the other forms of discolouration of the surface. By far the most frequent appearance was a blueish red and dusky hue around the ankle joint, next in frequency similar discolourations over the tibia, &c., as before stated. These spots were nearly always at some stage, and generally throughout, attended with induration and matting together of the subjacent tissues. The ecchymoses in most instances appeared suddenly; but in one case to which my attention was directed by Mr. Moriarty, Dr. Corrigan's clinical clerk at the Whitworth Hospital, they arose in a single night. In many other cases that came under my observation they formed within three days. They did not follow any regular course in making their appearance: they were sometimes noticed first as ordinary ecchymoses, which afterwards went through all the changes of colour which are presented by effused blood undergoing a gradual absorption; in other instances a faint yellow tint, which at first I could not get others to notice, deepened as it was watched from day to day into a bright yellow, greenish, greenish-red, up to the well-marked black and blue of a bruised surface. Pains sometimes preceded them for two or three weeks, and subsided on their appearance; but more frequently the ecchymoses suddenly discovered were regarded as the result of forgotten bruises, and, as in a patient of Dr. Corrigan's, and another at present under the care of Mr. Adams, were, by the persons who first were applied to, actually treated as such. The temperature of the discoloured parts was almost always higher than than that of the rest of the body. The ecchymoses were invariably, at some stage, sensitive, often acutely so,

and sometimes they were the seat of intense pains, increased by motion of any kind, but rendered excruciating by the patient attempting to walk. During their development and decline their sensibility was occasionally not abnormal. In one instance only I observed a small greenish, sensitive, and indurated spot above the bend of the elbow; two similar cases were reported to me. Ecchymoses on the body were noticed about half-a-dozen times, and reported as often. They were met with only on fat and flabby subjects.

Besides ecchymosis there was another form of cutaneous discolouration frequently noticed both by Mr. Cusack and myself, and of which a well-marked instance occurred in the person of an old lady in Swift's Hospital, aged about 80. The discolouration in question seemed to arise, not from extravasation, but from remora of black blood in the cutaneous veins. The vessels ramifying irregularly over the surface, when pressed by the finger, evidently collapsed, but they still contained blood; they were apparently but half filled with a black and viscid fluid. Spots, formed by vessels in this condition, I noticed in two or three cases only, and in no instance were they accompanied by the induration which I have described as attending ecchymosis. In the case above referred to, the spot, as large as the palm of the hand, covered the glutæus maximus. On the leg there were ecchymoses and indurations; the gums were spongy and bleeding, and there had been epistaxis.

Similar to this was an appearance pointed out to me by Mr. Moriarty; it was the great deepening of colour of petechiæ-like spots, the moment the patient assumed the erect posture, and their fading again on the recumbent posture being resumed.

In a patient of Dr. Kirkpatrick's, who presented the most miserable spectacle that could be imagined of scurvy, in its very worst form, both legs were greatly swelled, tense, and painful up to the knees, the surface being of a faint rose-red, but marbled all over with blackish lines. There were ecchy-

moses in other parts; intense pains; the gums gangrenous, and several teeth had dropped out.

In another case, under the care of the same gentleman, the eruption on the lower extremities resembled very thick-set rupia. It really consisted, however, of minute ecchymoses, perfectly black, uniformly circular, and each spot about a quarter of an inch in diameter. I saw but the one case of this kind.

Ecchymoses around the eyes occurred in two patients under Dr. M'Clelland's care; one, however, had very violent cough, and emphysema of the lungs, which, doubtless, contributed to produce the appearance. In two cases reported to me by Dr. Hobson, of Liverpool, ecchymoses occurred on the face. There was nothing otherwise remarkable in these cases.

In two instances noted by Mr. Price, of Waterford, and in others under the care of Mr. Wilde, ecchymoses covered the globe of the eye, and appeared upon the palpebræ, producing in the former situation slight chemosis: the lids were not swelled, but the contour of the orbit was of a black and blue colour. These symptoms were always conjoined with soreness of the gums, but in none were the pains of a very distressing character. They rapidly recovered under the use of antiscorbutics, without local treatment. Many cases, doubtless of this kind, have been related to me as occurring in the practice of friends in the city; not being recognised, they were subjected to a variety of local and general treatment, which was continued for months without any benefit.

Hæmorrhages from Mucous Membranes.—Epistaxis occurred in at least half the cases; it was met with in all stages; was sometimes so copious as to necessitate plugging the nares; was generally repeated several times, and seemed to have no constant relation to any symptom. It sometimes burst out violently at once, being the first symptom that attracted the attention either of the patient or his friends. A remarkable case of the kind occurred to Mr. Porter nearly two years ago, and in my experience it has not been rare. It was observed equally

in patients who had rigors, and in those who had not; in the well-fed, and in the starved; in the robust, and in the emaciated.

Hæmorrhages from the kidneys and bowels were very rare, and were observed only in cachectic and broken-down subjects, and in an advanced stage. The bloody stools were sometimes, as in fatal cases of Dr. M'Clelland's and Mr. Wilmot's, extremely profuse, and complicated with dysentery. Where blood passed from the bowels, the patients were soon completely blanched, and the fatal termination was not long delayed. Hæmorrhage from the stomach or lungs did not occur in any case.

Effusion into Joints.—Effusion into the ankle-joint was very frequent, but was never extensive, and did not require any special treatment. The knee-joint was more rarely affected, but the effusion, in more than a dozen cases, was very considerable, and sometimes remained long after the disappearance of the other symptoms. Drs. Law, Hunt, Stokes, Cusack, &c., have all remarked the frequency of this affection in scurvy, and most of them have had cases in which the joint was left for a long time stiff, or even remained permanently impaired. A patient of Dr. Kirkpatrick's, and one other, were the only cases in which I detected fluid in the hip-joint. The patients are still under treatment.

Induration.—In the general description of the varieties of scurvy, I have already spoken of the indurations met with. The nodular form was comparatively rare, but was very well marked in patients under the care of Mr. Cusack and Doctors Hunt and Law(*a*). It was invariably accompanied by pain and tenderness in the muscles affected, and more or less soreness of the gums; but very generally ecchymoses or discolorations of any kind were entirely absent. To detect the nodulations, it was always necessary to grasp the belly of the muscle in the

(*a*) Fel Plater (*Prax. Med.*, lib. iii. cap. 4, *de Defædatione*) is the first and almost only author who has described these very peculiar indurations.

hand, and to feel for them. In a case of Dr. Hunt's they continued more than two months resisting every kind of treatment.

The diffused form of induration occurred, to a greater or less extent, in almost every case. It sometimes preceded the ecchymoses, and very often remained long after the parts had resumed their natural colour. In only one case did it affect the neck, and in that instance it was unaccompanied by discoloration. There was difficulty in moving the jaw, but nothing like the scorbutic trismus described by Nitzsch, Goguelin, &c.

Glandular enlargements were noticed only in the poor-house, and not more frequently than in ordinary cases.

Skin.—Dryness and a scurfy state of the skin was more or less present in all cases. In the commencement there might be perspirations, but a dryness of the tegumentary covering of the body was among the most constant symptoms of the disease when fully developed.

Temperature.—For observations on the thermometric temperature of scurvy patients I am indebted to Mr. Nuttall, one of the clinical clerks of Steevens' Hospital. He finds the temperature of the mouth sometimes as low as 92° Fahr. but always one or two degrees below the ordinary standard. The spots examined by the hand appeared generally warmer than the rest of the body.

Pains,—more or less severe, so as even to keep the patient groaning incessantly,—were noted with scarcely an exception in all cases. In all, too, they were rendered more severe by assuming the erect posture, and in many walking rendered them so excruciating as to cause the patient to faint repeatedly. The following is the order of frequency of the parts affected. The soles of the feet, the calves of the legs, the heel and ankle-joint, &c. In two instances in the North Dublin Union Hospital, the entire of the surface of the head was the almost exclusive seat of pain of a very intense description, but which, the patients said, was not headach but something more superfi-

cial. In one case the neck was the part principally affected. Frequently the shoulders were principally complained of, but the pains did not long occupy this site, and pains in the legs, *always muscular*, were in *all* instances simultaneously present. Pain in the back, severe and obstinate, was only occasionally observed (as in several patients at Steevens' Hospital); it was by no means either of very frequent occurrence or a very remarkable symptom(*a*). A patient of my own, another whom I saw under the care of Dr. Corrigan, and a third under Dr. O'Ferrall, had been treated by their previous medical attendants by local and general means, in the belief that it was rheumatism only they were suffering from.

Contractions of the ham-string tendons, with loss of motion of the knee-joint, occurred in more than a dozen cases. They seemed in most instances to be caused by effusion into the joint taking place whilst the limb was maintained for a long time in a permanently fixed position, through dread of the pain caused by the slightest motion. This, at least, was the case in a patient under Dr. Kirkpatrick's care: after complete recovery from an attack of scurvy the same disease again broke out, and both legs are now permanently contracted and useless. In other cases the deformity was brought about differently: the muscles seemed to take on a gradual process of involuntary contraction, which sometimes afterwards subsided, but more frequently was permanent and irremediable.

Digestion, in the commencement, was invariably good, and the appetite far from impaired. The tongue was rarely affected; two or three times portions of it and of the inside of the cheeks were blackish from a sort of varicose condition, similar to that above described as occurring on the skin; in several instances the cuticle of the tongue peeled off and was afterwards replaced. The bowels at first were either natural or constipated,

(*a*) In Exeter it would appear that pain, or weakness of the back, is a much more constant symptom of the disease than it is with us.—Prov. Med. and Surg. Jour., June 2; and Lond. Med. Gaz. Nos. 109, 110. 1847.

in advanced cases of a severe description there was often diarrhœa or dysentery, sometimes, as before stated, with bloody stools.

Circulation.—The pulse was very generally quite natural, but sometimes quick, and always very feeble. *Bruit de soufflet* in the neck, though carefully looked for, was only met with in two instances, and those cases in which of all others I least expected to find it, as they had very little of the anæmic look so common in this disease. M. Beau's cases, in which the murmur existed, may therefore, so far as experience in this country is concerned, be regarded as altogether exceptional. No physical sign is subject to such danger of fallacy as *bruit de soufflet* in the neck. The stethoscope should be pressed with the observer's own fingers sufficiently firmly against his ear, and the patient's skin should not even be indented by the instrument, or the observation is quite valueless. Cases have been repeatedly pointed out to me by students as presenting cervical *bruits*, which, on examination, were found to have no morbid sound whatever, but what was produced by pressure. M. Beau, however, is far too good an observer, and has studied the subject far too elaborately, to be misled by any error of this kind(*a*).

Derangement of the circulation was much more frequent at the very outset than at any after period. The premonitory fever, in some cases, was very violent. A patient of Dr. M'Clelland's had, during four days, repeated rigors, with the most violent shivering and sweating. The fever then subsided, and in a few days the spots appeared on the legs, the case, in all other respects, pursuing the very same course as those from first to last perfectly apyrexial. Violent febrile (premonitory) symptoms were, however, excessively rare; but a slight degree of shivering, with acceleration of pulse, flying pains, and prostration, was not uncommon.

(*a*) See his very able series of articles on morbid bruits in the numbers of the *Archives Générales* of last year.

Nervous System.—More or less of prostration and lassitude were invariably observed, and a sullen despondency was very frequently met with; but deafness, ringing in the ears, weakness of vision or of hearing, sleeplessness, or delirium, were not noted in a single instance, even in those cases where the typhoid prostration was most remarkable.

Coexistence with cutaneous diseases, though often alluded to in reports received from the country, and in the descriptions of sea and land scurvy contained in authors, was observed only in a single instance, in a patient in the Poor-house.

PATHOLOGICAL ANATOMY.

I know of but three *post mortem* examinations of scurvy patients made in this country, two at the Meath, and one at Steevens' Hospital. Mr. Wilmot, Jun., the resident surgeon of Steevens' hospital, and Mr. Haslep, clinical clerk at the Meath Hospital, have very kindly furnished me with a minute account of all the details of these cases. They are wholly negative in their character as to internal organs; there were no effusions anywhere. The spots on the legs were carefully dissected, and their colour and induration were found to be due to extravasated blood, which both deeply infiltrated the tissues, and, in some cases, was found in a fluid form, bound down underneath the membranes. Since Thibaut and Poupart's investigations at the Hospital of St. Louis, Paris, in 1699(*a*), not an idea has been gained on the anatomy of scurvy. Effusions of blood or serum were met with in different tissues or hollow viscera; the fluctuation in the joints was found to be owing to fluid blood contained within their capsules(*b*); the nodules were discovered to be masses of coagulated fibrine; and the diffused induration was due either to blood or fibrine, infiltrated in a

(*a*) *Mémoirs de l'Académie des Sciences*, 1699, p. 237.

(*b*) Two interesting cases of scurvy, with careful dissections, are recorded in Andral's *Clinique Med.*, vol. iii. p. 466, and vol. i. p 584, 3me edit., Paris. See also *Rouppé De Morb. Navig.*, and *Dict. des Sci. Méd.*, Art. *Scorbut.*

solid or fluid form through the substance of the tissues(*a*). The fluidity and dark colour of the blood was also noted, and a corrosive quality and alkalinity was ascribed to it. Poupart likewise observed caries of bones, separation of the epiphyses, and erosion of the cartilages of incrustation. At this moment we know nothing more with certainty.

ETIOLOGY.

To know the causes that give rise to scurvy is, in a great measure, to know its treatment; and, as the most logical and convenient means of arriving at just conclusions, I shall now proceed to adopt that method of considering the subject (*par voie d' exclusion*) of which the French pathological writers are, with great reason, so very fond.

Sea Air.—No one in the least acquainted with the literature of the subject can tolerate for a moment the names, so commonly employed, of *land* and *sea* scurvy. It would be quite as pathological to talk of land and sea pleurisy, or metropolitan and rural fever. Scurvy was first met with on land, and in persons living exclusively on *fresh* fish, viz., in the army of Louis IX., in Egypt, A. D. 1260(*b*); and almost all the earliest, and by far the most virulent, epidemics of scurvy,—as that affecting the French in Newfoundland(*c*), the besieged in Breda(*d*), the

(*a*) Sir G. Blane found a want of fluidity in the blood, but could not discover any extravasation or ecchymoses in the indurations or discolourations of scurvy. His cases, I presume, were similar to those in which I observed the colour to deepen gradually, for this is quite contrary to the course taken by ecchymoses in general.—Observations on the Diseases incident to Seamen, by Gilbert Blane, M. D. London, 1785, p. 474.

(*b*) *Histoire de Louis IX. par le Sieur Joinville.* As of syphilis, so of scurvy, the notices in the ancients are too vague and imperfect to enable us to say whether they had met with the disease or not. If they did meet with it, it was in the army of Ælius Gallus in Arabia, or in that of Germanicus in Germany. *Strabon. Geograph.*, lib. xvi., and *Plinii Hist. Nat.*, lib. xxv.

(*c*) Jacque Cartier and L'Escabot; Hakluyt's Voyages, vol. iii.

(*d*) F. Vander Mye, *De Morb. et Sympt. Pop. Bredanis Tempore Obsidionis*, &c.

Russians at Wiburg(*a*) and Cronstadt(*b*), &c.,—were observed far inland, and in persons quite unconcerned with nautical affairs. The disease was formerly endemic in England, Holland, and most of the northern countries. Scurvy is neither more severe on board ship than on land, nor does it there present the slightest peculiarity in its course or symptoms, so far, at least, as can be learned from the descriptions of authors. There is, therefore, no such thing as *land* or *sea* scurvy.

Salt.—Salted food having formed the principal, or exclusive diet of the soldiers and sailors who were the earliest victims of scurvy, the disease was soon ascribed to an excess of salt in the system, and this popular error is still exceeding current in the public mind. That the notion is altogether without foundation is, however, very easily shewn. Anson's crew, six weeks after leaving Mexico, were attacked with scurvy, though living exclusively on fresh provisions: the same was the case, in 1720, with the German army in Hungary and Piedmont(*c*). The peasants about Dresden, who live on pulse alone, are very subject to it(*d*) ; and scurvy commits great ravages among the inhabitants of the Alps, when compelled by bad harvests to live exclusively on roots. Again, in 1736, it cut off, at Azoff, many thousand Russians, who were subsisting chiefly on fresh fish, caught in the River Don, and which they ate but half-cooked. The same thing happened at the siege of St. Anne; and many other instances are to be found in the older writers. But, to come to more recent times, we have scurvy raging among the British troops in India(*e*), the inmates of the Milbank Penitentiary(*f*), the prisoners of war in Portchester Castle and Norman Cross(*g*), and lastly, at the present moment,

(*a*) *Commerc. literar. Norimb.*, ann. 1734.

(*b*) *Parerga Med. couscript. a Damiano Sinopaeo.*

(*c*) *Krameri Dissertatio epistolica de Scorbuto.* (*d*) Idem.

(*e*) Sir J. M'Gregor in Ed. Med. and Surg. Jour., vol. i.

(*f*) Latham's account of the Milbank Penitentiary Epidemic.

(*g*) Sir G. Blane in Med. and Chirurg. Trans., vol. vi. p. 502; see also vol. iv. of same work; Trans. of Coll. of Phys. of Lond., vols. ii. iv. &c.

in all parts of Ireland, as well as in very many in Great Britain: with the most different dietaries, both as to amount and quality, but all agreeing in this,—the almost total exclusion of salt food of any kind. Salt, then, is not *the* cause of scurvy; nay, upon a thorough investigation of the subject, shall we not hesitate to say, that it is even *a* cause of that disease, since Lind gave it in large doses to scorbutic patients without the least apparent injury.

Luxury.—Willis, the celebrated anatomist, ascribed the prevalence of scurvy in his time to the increased consumption of sugar(*a*); Maynwartinge(*b*), to the use of tobacco and excessive venery; Harvey(*c*), to gluttony and debauchery, &c. All these, however, and many other crude notions of a like kind, are quite unworthy of a serious refutation, since a sufficient answer to them all is afforded by the prevalence of scurvy in Ireland at the present time.

Want of Milk.—The value of milk is unquestionable, but its powers in combating disease are very limited; and although Dr. Prout, with some shadow of reason, makes it the *beau ideal* of human nourishment, it is to most stomachs of grown men by no means a very digestible substance. Dr. Christison, of Edinburgh, in a very interesting paper(*d*) on the subject, ascribes the recent prevalence of scurvy at Perth to the want of milk, and asserts his belief in milk being an antidote for the disease. Unhappily, however, the literature of scurvy affords many instances of the utter inefficacy of milk to protect from that disease, but our own experience on this head is quite sufficient. All the patients (with but four or five exceptions) in the North and South Union Hospitals of Dublin had been in the Poor-House for periods varying from six months to five years, and for at least six months had been using the following dietaries:—

(*a*) *Tractatus de Scorbuto.* (*b*) *Morbus Polyrhizos*, &c., quoted by Lind.
(*c*) The Disease of London, or, A new Discovery of the Scurvy, 1675.
(*d*) Monthly Journal of Med. Science, Numbers for June and July, 1847.

South Union,—seven ounces of oatmeal in porridge, with half a pint of milk, for breakfast; eight ounces of bread, with half a pint of milk, for dinner,—under this regimen four cases occurred. The other seven attacked in the house had been on the diet of the infirm, which is as follows: eight ounces of bread, with one pint of milk, for breakfast; and for dinner the same quantity of bread with half a pint of milk; three of these were receiving, in addition, on account of their feebleness, half a pound of mutton and half a pint of porter. In the North Union, the patients, when attacked, were using for breakfast one quart of porridge (containing seven ounces of oatmeal), with half a pint of milk; for dinner, three-quarters of a pound of bread, with half a pint of milk; the bread used at dinner being replaced on Tuesdays and Fridays by one quart of boiled rice: about a dozen were also receiving one pint of tea in addition.

If, however, it be Dr. Christison's intention to maintain that milk but supplies the proteinaceous nutriment wanting in the food, then his argument is answered by the fact, that scurvy appears amongst the Esquimaux, when flesh is most abundant(*a*); that it raged most severely in Anson's crew, when flesh-meat, fowl, and fish, all fresh, together with farinacea, were most profusely supplied to them; that it shewed itself in the British army in India(*b*) and at the Cape(*c*); the Russian army on various occasions(*d*); the French and German armies, &c.; as well as in a great number of merchant and other vessels,—of which notices will be found scattered through the pages of the Lancet and Medical Gazette, &c.,—when a liberal dietary of farinaceous articles and fresh meat, without any salt provisions, was that which was employed. One of the very worst cases that I saw this year occurred in the wife of a shopkeeper in Camden-street, who, by the advice of a medical man, had been using, for the three

(*a*) Sir Edward Parry.

(*b*) Trans. of Med. and Phys. Society of Calcutta, vol. viii.; and Sir J. M'Gregor in Ed. Med. and Surg. Jour., vol. i.

(*c*) Med. Gaz., vols. xxi. xxii. xxiii. (*d*) Nitzsch.

months previous, beef-tea with bread and butter for breakfast; roast meat, broth, and bread for dinner; and coffee and bread and butter in the evening: together with Guinness's porter, and wine. She was universally œdematous, had extensive ecchymosis on the lower extremities, and could not close her lips from the exuberance of the vegetations on the gums, whilst fainting was produced by the most trifling exertion. On the other hand, thousands, nay millions, of peasants in the centre and west of Ireland have lived for years exclusively on potatoes, with salt, or some similar condiment, and enjoying the luxury of milk only at rare and distant intervals, or *not at all* (as we have satisfactorily ascertained in very many instances); yet scurvy was unknown in Ireland until within a very recent period. Dr. Stokes informs me that he, this year, attended four persons in the upper ranks of life who were affected with scurvy, although living on the mixed diet, with wine, &c., common to persons of their class. Drs. O'Ferrall, R. W. Smith, and Price, have had several similar cases. Three patients at Swift's Hospital were under Mr. Cusack's care for scurvy, very well marked, yet the dietary of that admirably managed institution is as follows: breakfast, a pint of tea, six ounces of bread, one ounce of butter; dinner, three-quarters of a pound of beef or mutton, three-quarters of a pound of bread, one pint of soup. (On Tuesdays and Fridays, one pound of bread, one pint of mixed milk, one ounce of butter, one quart of rice-pudding.) Supper, eight ounces of bread, one pint new milk: beer, porter, and wine, whenever deemed necessary or desirable. Without referring to many other cases in my own experience, Drs. Seller, Ransford, Patterson, and Taylor, of Edinburgh, men-

(*a*) In the discussion that took place at the Medico-Chirurgical Society of Edinburgh on this subject, all the members, strangely enough, were ignorant not merely that scurvy did actually exist extensively in Ireland at present, but that an account of its appearance there had been published more than a year ago. See Dublin Hosp. Gazette, Nos. xxiv. and xxix. of vol. ii. Dr. M'Cormack's paper in the Number for April 15th, 1846, will well repay an attentive perusal.

tion numerous instances of the disease attacking persons in the upper ranks of society. We may, therefore, very safely conclude, that *neither misery, nor the want of milk, flesh, fish, farinacea, nor any combination of these, can be regarded as the cause of scurvy making its appearance.*

Uncleanliness, &c.—This has been stated by several authors; but hygienic errors of this kind are certainly on the decrease, and every one who has either read or travelled much must be aware, that scurvy is unknown in many localities in which such causes attain their acme of intensity.

Epidemic Character.—In investigating the questions that remain to be considered, as they embrace topics not capable of strict demonstration, viz., the agency of an unknown combination of circumstances in producing disease, it will be necessary to operate on a very large collection of facts, in order to eliminate the element of chance, and, if possible, to arrive at something constant. For this purpose the following table has been compiled, in order to place a full view of the facts distinctly before the reader:

SEVERE EPIDEMICS OF SCURVY CONFINED TO SPRING.

Army of St. Louis IX. 1260(*a*).	Holland, 1562(*f*).
Crew of Vasco de Gama, 1497(*b*).	Breda, 1562(*h*).
Colonists of Stadacona, 1535(*c*).	E. I. C's., first fleet, 1600(*i*).
Settlers in Nova Francia(*d*).	The fleet at Torbay, 1695(*k*).
Cartier's Second Voyage(*e*).	The Saxons at Thorn, 1703(*l*).
Holland, 1556(*f*).	Russians at Belgrade, 1720(*m*).
Brabant, 1556(*g*).	Baltic Fleet, 1726(*n*).

(*a*) *Hist. de Louis IX.*, part ii. Par le Sieur Joinville.

(*b*) *Herman Lopez de Castanneda.* (*c*) *Encyclopedie Biographique.*

(*d*) Lind on Scurvy. (*e* Hakluyts' Voyages, vol. iii.

(*f*) Ronssei *Comment et Epist.* (*g*) Dodonæi *Prax. Med.*

(*h*) Vander Mye, *De Morb. et Sympt. Pop. Bredanis*, &c. One of the most intensely interesting medical histories we have ever read.

(*i*) Purchas' Collection of Voyages, vol. i.

(*k*) Cockburn's Sea Diseases. (*l*) Bachstrom, *Obs. circa Scorbutum.*

(*m*) Kramer. *Dis. Epist. de Scorbuto.* (*n*) Mead on Scurvy.

Russians at Cronstadt 1730(*a*).
,, ,, ,, 1731(*a*).
,, ,, Wiburg, 1732(*b*).
,, ,, Cronstadt, 1733(*a*).
St. Petersburgh, 1734(*b*).
Russians at Azoff, 1736(*c*).
Imperialists in Hungary, 1737(*d*).
Russians at Ust-Samara, 1737(*c*).
Gmelin's exploring party in Siberian winter quarters, 1736(*e*).
Russian troops at Chocim, 1739(*c*).
Anson's crew (first attack), 1741(*f*).
Russian troops at Borgo, 1742(*c*).
Russian troops at Abo, 1743(*c*).
Russians at Fort St. Anne, 1744(*c*).
The Channel Fleet, 1746(*g*).
,, 1747(*h*).
Exploring party Hudson's Bay, 1746(*i*).
,, at sea, 1747(*i*).
At Taverhoff, 1738-39(*e*).
H. M. S. Greenwich at Ruattan, 1743(*e*).
At Fort William, 1746(*e*).
At Riga 1749, 1750, and 1751(*e*).
Palatine emigrants on passage to Nova Scotia (half died), 1750(*e*).
British at Quebec, 1760(*k*).
Orphan House, Moscow, 1767-68-69-70-72-73(*l*).
The West India Fleet, 1780(*m*).
The Channel Fleet, 1780(*e*).
,, 1795(*h*).
Army of the Alps, 1795(*n*).
French at Alexandria, 1801(*n*).
British army in India, 1801(*o*).
The Milbank Penitentiary, 1823(*p*).
At Nicolaef, Cherson, Sevastopole, &c., 1823(*q*).
Along the Dnieper, 1824(*q*).
British Army in India, 1834(*r*).
Provincial Prison, Prague, 1844(*s*).
In Ireland, 1846(*t*).
In Exeter(*u*).

(*a*) Sinopeus, *Parerga Medica*.
(*b*) Nitzsch in *Commerc. Litterar. Norimb*, 1735.
(*c*) Nitzsch, *Theoretisch Practische Abhandlung des Scharbockes*, &c., and Lind's Treatise, where it is well analyzed.
(*d*) Kramer, *Dissert. et Epist. de Scorbuto*.
(*e*) Lind on Scurvy.
(*f*) Anson's Voyage, by Walter.
(*g*) Huxham.
(*h*) Trotter, *Med. Nautica*, vol. i.
(*i*) Ellis's Voyage to Hudson's Bay, &c.
(*k*) Smollet's Hist. of Eng., vol. iv.
(*l*) Mertans, in Phil. Trans., vol. lxviii. part 1.
(*m*) Sir G. Blane, Dis. of Seamen.
(*n*) *Mem. de Chirurg.*, J. D. Larrey.
(*o*) Sir J. M'Gregor in Ed. Med. and Surg. Jour., vol. i.
(*p*) Lond. Med. Gaz., Feb. 1842; also Latham.
(*q*) Lee in Lond. Med. and Phys. Jour., vol. iv.
(*r*) Trans. of Med. and Phys. Soc. of Calcutta, vol. viii.
(*s*) *Vierteljahrschrift von der Medizinischen Facultat in Prag.*, 1844.
(*t*) M'Cormack in Dub. Hosp. Gaz., vol. ii.
(*u*) Prov. Med. and Surg. Jour., June 2, 1847; and Med. Gaz., May 28, and June 4, 1847.

OTHER SEVERE EPIDEMICS OF SCURVY.

Anson's crew (second attack), summer.	West India Fleet, 1740, commenced in August(*b*).
Perth Prison(*a*). Do.	

From an examination of the above table, which contains all the remarkable accounts on record, it appears evident that scurvy must be either an epidemic affection like influenza, cholera, and the potato disease,—arising at particular periods, and running its course independent of any known conditions,—or it must be due to some peculiarity of diet or climate, found only, or chiefly, during the winter season.

The epidemic character of scurvy seems to have been more than suspected by the officers, whose reports on the scurvy which prevailed at the Cape in 1836 were published(*c*) by Sir J. M'Gregor, as the fact of the simultaneous appearance of the disease among the whalers in the Southern Ocean, and among the troops in the interior, is more than once alluded to by them. It is, however, quite contrary to the character of an epidemic, that the *officers*, both by sea and land (and equally in the Russian, Dutch, Swedish, Spanish, English, &c., services), should enjoy an almost total exemption from its ravages; and that the besieged in a town should lose vast numbers from it, whilst those with whom they were in daily and hourly combat should be altogether exempt. It appears to me, then, from a very careful consideration of this subject, that the conclusion towards which all the evidence directly leads is this, that, in certain seasons, an "epidemic constitution" (as Sydenham would call it) exists in the air, giving a *tendency* to the development of scurvy, but that other predisposing causes are necessary to its actual outbreak Now, on examining our list a second time, we find that there are certain hygienic causes which, in almost every individual instance, are noted as having been present, and generally intensely active, viz., humidity,

(*a*) Christison Monthly Jour. of Med., June, 1847. (*b*) Lind on Scurvy.
(*c*) Med. Gaz., vols. xxi. xxii. xxiii.

sudden alternations of temperature, inactivity, and moral depression, and, lastly, the absence of fresh succulent vegetables. However, as this paper has already extended to a greater length than was anticipated, I shall add but a word or two in illustration of each.

Humidity and sudden thermometric changes have been so characteristic of the past and previous spring and winter, that the subject was brought before both the Royal Irish Academy and the Royal Dublin Society. Professor Lloyd stated to the Academy, that on one occasion, in the course of twenty four hours, the thermometer rose more than 30°, a circumstance quite unprecedented in the meteorological annals of this country. During the last winter, in particular, the unusually intense cold, alternating almost daily with a precocious warmth, and generally attended with a very humid atmosphere, must have been the source of extreme suffering to the poor, even had not the very unusual circumstances of the country rendered them unable to adopt the ordinary precautions against such vicissitudes, by fires and clothing. From the time of Joinville's account of Louis's army encamped near Damietto, down to that of Dr. Ford's of the British army in the province of Adelaide, at the southern extremity of the same continent, we find, whatever may have been the prejudices or the theory of the observer, that moisture and atmospheric vicissitudes are laid down almost invariably among the predisposing or exciting causes. When,—as in the case of Anson's crew in the Pacific, the British fleet in the West Indies and in the Mediterranean, and the French troops in Egypt,—we see the disease appearing in regions ordinarily accounted warm, we shall still find that to scorching heat by day succeeded intense cold by night; whilst either rain, dew, or the spray of a stormy sea, loaded the atmosphere with moisture. Nitzsch, in his account of the health of the Russian armies, already repeatedly alluded to, gives many striking illustrations of the effects of cold and moisture in producing scurvy, and of the singular diminution in the number of such cases after an improved

method of clothing and quartering the troops had been adopted. In Parry's first voyage one of the officers alone was attacked with scurvy, and he, it was found, had been sleeping on a bed that was constantly moist. Ronsseus, whose book(*a*) was published in 1551, entertained the same views, and adduced the scurvies of 1556 and 1562 as proofs of the influence of rainy and changeable weather in producing the disease. Most of the writers since his time have added something to the evidence on this head.

Moral Depression and Inactivity.—All writers inform us that marines (who are neither the most honoured nor the most actively employed of a ship's company), skulkers, and convalescents, are the first persons attacked with scurvy; and mutiny, discontent, or despondency invariably precede the appearance of the disease, generally, too, in combination with the other causes above alluded to. Nitzsch, in his account of the Russian armies, tells us that when the recruits were, as during the Neister campaign against Charles XII., exposed too speedily after being raised to all the horrors of that brutal discipline which makes Russian soldiers such excellent machines, scurvy used to commit amongst them the most frightful ravages; but by merely allowing them time,—as in the Chocim campaign, a year or two later,—to become inured to the system, the mortality was much diminished. Mr. Ford, surgeon of the 72nd Regt., in giving an account of the scurvy at the Cape(*b*), dwells much on the influence of inactivity and dissatisfaction, to which he mainly attributes the outbreak of the disease. Lind alludes to instances in his own experience where scurvy, then very prevalent and increasing in the fleet, has been at once checked and quickly got rid of by the news of a successful engagement, or even the anticipation of one. Walters' interesting narrative of Anson's voyage has similar accounts; but the most remarkable case of all, which,

(*a*) *De Magnis Hippocratis Lienibus Plinique Stomacace Sceletyrbe*, &c.
(*b*) Med. Gaz., vol. xxi. p. 250.

besides, is thoroughly authenticated by undoubted testimony, is the arrest of scurvy amongst the garrison in Breda by the distribution, by the Prince of Orange, of a little coloured water which was believed by the soldiers to be a wonderful and most expensive elixir. "The calamity," says Vander Mye, speaking of the disease which had cut off thousands of the gallant garrison of the town, "proved most fatal to the *English* soldiers, as they very early began to feed on dog's flesh, were in want of their beloved tobacco, and lay in the most wet damp barracks. Among the *French* it was but rarely met with, owing entirely to their being stationed in the driest part of the town, and to their natural sprightly disposition, being constantly employed in some motion or exercise, singing, or the like"(*a*). MM. Monneret and Fleury(*b*) assert, that in two instances they have seen scurvy originate *in mental causes alone;* and M. Papavoine(*c*) had an equal number of cases of the same kind It was undoubtedly owing to the necessity of taking exercise in hunting for subsistence, that the party of seamen accidentally left at Spitzbergen enjoyed excellent health all winter, whilst a similar party left at the same spot, and most amply provided for, but who constantly remained shut up in their tent, to avoid the extreme cold, were cut off to a man by scurvy. The Greenlanders, in like manner, according to Parry, suffer from the disease only when the abundance of sea-horse flesh tempts them to inactivity.

If, then, mental depression and bodily inactivity have the least tendency to give rise to scurvy, never was there a time when these causes, combined with the atmospheric conditions before referred to, were more likely to produce a powerful effect than during the last nine months. Agriculture, hitherto the sole means of support for the great mass of the population, paralysed by new and unheard-of difficulties; hundreds of thou-

(*a*) Lind, p. 350. (*b*) Compend. de Med. Prat., t. vii., p. 507.
(*c*) *Journ. Hebdom.*, t. ix.

sands of labourers and artisans out of work, and without any prospect of getting remunerative occupation; destitution, misery, and disease, on every hand, as a consequence; the ties of affection severed by the most extensive emigration, attended, in by far the majority of instances, by unexpected misfortunes and disappointment; political hopes blighted;—such was the combination of moral and physical causes which united their influence to that of climate, in producing the strange "epidemic constitution" of 1847. Still, however adequate to give rise to disease may have been the peculiar circumstances of this country, they were, in no respect, either so new or so extraordinary as to account for the production of what may be termed a new disease; and besides, the simultaneous appearance of that new disease in several of the public institutions of Great Britain compels us to seek for another cause of more general influence than either misery or suffering of any kind, and this seems to be

Want of fresh succulent Vegetables.—In four-fifths of the cases reported to me, bread and tea, or coffee, was what the patients had been living on, when attacked; the others had been using grains of various kinds, or grains and flesh or fish, but *in no single instance* could I discover that green vegetables, or potatoes, had formed a part of their regular dietary. The same exclusion (necessary or accidental) of fresh succulent vegetables is also observable in all the cases on record (with but two or three partial exceptions), where the details are given with sufficient minuteness to enable us to ascertain the point. In the two or three exceptional cases we are either directly informed that the quantity of vegetables was very limited, or the fact is so vaguely stated that we are left in doubt whether, although vegetables were used by some of the troops, those affected with scurvy may not have abstained from them altogether. However this may be, the instances are certainly far too few to be regarded as any other than very rare exceptional cases. Scurvy never seems to have been very prevalent in Ireland, as Mr. Curry, the eminent Irish scholar, informs me that he can find

no undoubted allusion to it in the Irish medical authors of the middle ages, who were generally very minute and accurate in describing what they saw. This was probably because the Irish have been vegetable eaters *par excellence*, or ποηφαγοι, as Strabo calls them. Mr. Wilde, in his Memoir on the Irish Census, informs us, that a single doubtful allusion in the Book of O'Sheil is the only manuscript testimony to be met with, and the name scurvy certainly does not occur in the Dublin bills of mortality(*a*) of the date of 1676. The disease, or at least a form of purpura, has, however, he says, long been known to the country people under the Irish name of Galar Breac (Galar Dreac), or the speckled disease, and in English "the purples," and "blue spots."(*b*)

In England scurvy was formerly exceeding prevalent, being described as endemic there by most of the older authors. Chameau writes his book for the benefit of the English, and Harvey entitled his, "The Disease of London," &c. That this should have been the case is not to be wondered at, considering that salt meat was formerly the food of the inhabitants for nine months in the year, whilst vegetable fare was little relished, and indeed unattainable; Catherine of Arragon, Henry the Eighth's queen, having to send a special messenger to Holland to bring over a gardener to raise a salad for her(*c*). The gradual introduction of the potato, and of cabbages, turnips, onions, and a long list of fruits and vegetables, now so common as to be looked on as indigenous,—together with im-

(*a*) It certainly is a very extraordinary circumstance that this city had, nearly two centuries ago, a regular registration of deaths, which in this most statistical age she is wholly denied. No registration of deaths has been kept in Dublin since the commencement of the present century, though the value of such documents the researches of Quêtelet and others have very amply proved.

(*b*) Wilde's Report on the Tables of Deaths in the Irish Census of 1841, pp. x. and xxxvi., the only extensive medical statistics with which this country has yet been presented.

(*c*) Anderson's Hist. of Commerce.

provements in living, and in general hygiéne, have gone on *pari passu* with the decrease of scurvy; and whatever was wanting satisfactorily to establish between them the relation of cause and effect has been supplied by the re-appearance of scurvy consequent on a general failure of the potato crop(*a*). Still we are not to suppose that, wherever succulent vegetable food has been wanting, there we may in every instance predict an outbreak of scurvy. That would be contrary to what we know of the disease, as well as opposed to the general principles of pathology. Generalizations that apply to existences purely *ideal*(*b*) may be free from exceptions; but in *real* life we can so rarely seize all the antecedents of any given consequent, that our notions of causation can never be more than approximate. One of my former school-fellows, after being on *four* several occasions the *sole survivor* of the crew which had sailed with him to the coast of Africa, during all which time he enjoyed the most perfect health, got a severe attack of fever, which nearly carried him off, whilst attending a patient residing in a healthy district in England. It

(*a*) I have in vain endeavoured to ascertain whether scurvy, or anything like it, appeared in Ireland after the failure of the potato crop in 1741. O'Connell indeed mentions that epistaxis was then exceedingly common, whilst intense rheumatic pains, and large ecchymoses, seem to have been tolerably frequent in fever; but whether any of these were really symptoms of scurvy it is now impossible to say (O'Connell, *Morb. Acut. et Chron.*, pp. 333 and 335). That at least some cases of scurvy were met with during the famine of 1800 I have positive, though not professional evidence; and Dr. Rogan, of Derry, distinctly remembers the prevalence of scurvy during the famine of 1817, caused by a partial failure of the potatoes. That we should know so little of a period beyond the era of medical *journals* is certainly not to be wondered at, when we reflect that nearly all the medical men on the other side of the channel, and not a few of those at home, are at this moment totally ignorant that for at least eighteen months scurvy has been very prevalent in Ireland. The very able paper of Dr. M'Cormack (then of Buncrana, county Donegal), published in the Dub. Hosp. Gaz., April 15, 1846, was the first public allusion to the prevalence of scurvy caused by the loss of the potato.

(*b*) See Mill's Logic, vol. i., on the peculiarities of mathematical reasoning.

is plain, therefore, that the three or four, or half-a-dozen instances of persons who, as in four cases mentioned by Dr. Christison, and in two which occurred to myself, state that they have been using precisely the same diet for some years past, are not to be regarded as contradictory of the influence of a change of food. Dietetic error seems to be the *principal* agent, but it requires, in order to its producing its effect, the concurring influence of "epidemic constitution."

The chemical theory of diet,—which, originating, as it undoubtedly did, with Fourcroy and Vauquelin, has been so ably extended and improved by Dumas, Boussingault, and Liebig, and many other able men in France and Germany,—is one which requires but to be stated to secure for it at once the full and undoubting assent of every intelligent man. So long as life exists, the human body is continually throwing off, in the urine, fæces, sweat, &c., a great number of substances, the amount and nature of most of which cannot materially vary without injury to the economy. Now if it be necessary that a certain quantity of urea and other salts should be formed and got rid of daily, just as a certain amount of carbonic acid must be formed and discharged daily in the efforts of respiration, it surely requires no argument to shew that either all the elements of the secretions and excretions must be found in sufficient quantity in the food taken, or else the body must undergo a gradual waste. "It will not do to feed the muscles alone, or the cellular tissue, or the secretions; each portion must be nourished in its due proportion, or disease will be the inevitable consequence. It is not enough that food be given containing sufficient nitrogen, together with oxygen, hydrogen, and carbon, to supply the soft organs; but we must also give the necessary quantity of phosphate of lime for the bones, and sulphur and sodium for the bile. All the muscular and albuminous tissues contain sulphur and phosphorus as essential constituents; the brain and nerves contain phosphorus and sodium; the blood has iron in one of its elements. In

the adult animal, these various solids and fluids are becoming constantly destroyed under the influence of inspired oxygen; and if health and life are destined to be maintained, they must all be restored in equal proportions to those in which they are thrown off. In the young and growing animal, where the increase is greater than the waste, they must be in still greater quantity, especially as regards lime and iron. We have seen that a young animal requires four times as much lime as is requisite to form bone-earth with the phosphoric acid of its food; and without a sufficient supply of iron, the blood globules cannot become formed. The question of nutrition thus reduces itself to simple algebraic equations: the food of an adult must contain elements equal to the waste; the food of the young must contain elements equal to the waste, *plus* the surplus growth."

Now various chemists, and more particularly MM. Dumas and Bousingault, have instituted many ingenious experiments, in order accurately to ascertain the amount and nature of the matters thrown off from the bodies of a variety of animals daily, and it has been found that the quantities vary within what may be called narrow limits. These determinations, therefore, afford very important data for the discovery of that diet, which, though the cheapest, is yet perfectly adequate to the support of the body in a state of absolute health. We must, however, know much more as to the variation of constitution in the flesh of different animals, and in the vegetable productions of different countries, before this problem can be fully solved; and when the mere chemist is satisfied, *taste* and *digestibility*, neither of which, in questions of nutrition, can ever be safely neglected, have next to be consulted before the results arrived at can be of the least practical use. Dr. Christison, by overlooking *the salts* contained in food, has committed an error which totally destroys all the value of his reasonings. That vulgar experience which leads the bird-fancier to supply his birds with lime, should not be lost upon those who have to direct

the nutrition of the masses of the human species. Dr. Aldridge is, however, the only chemist who has made his knowledge practically available on this subject(*a*); and from his excellent little work, which I am glad to see has been adopted as authority by the Board of Health in the very judicious circular on food recently issued, I extract the following short, intelligible, general directions:

"The chief principle which should guide us in the selection of food for man is exceedingly simple. It is this: to combine a flesh or seed diet with the use of succulent roots, stems, or leaves. The former supplies nitrogen in the proper state of combination; the latter affords the inorganic elements, phosphorus, sulphur, lime, and alkalies, which are just as necessary. The Roman soldiers lived on peas and cresses; the modern Spaniards and Russian sailors use black bread and onions. According to Camden, the ancient Irish existed principally upon mushrooms, shamrocks, water-cresses, and roots. The mushrooms in this system of diet were the chief source of the nitrogen. The Lazzaroni live on coarse bread and potatoes. Now all these modes of alimentation, which have been adopted spontaneously by different and remote nations, are perfectly in accordance with the laws which we have stated, and experience has demonstrated their efficiency."

An objection to the foregoing views, and which we have never seen fairly answered, has been often put in the following form:—If the want of fresh succulent vegetables be the principal cause of scurvy, why is it that the Greeks and Romans, who made war their chief occupation, and who often were engaged in very long sieges, either did not know the disease, or, at least, described it extremely imperfectly? Now this objection admits of being met in two ways, first, by denying the fact of

(*a*) On the comparative nutritive and pecuniary values of various Kinds of cooked Food, and the chemical and physiological Laws which must be adhered to for the beneficial Use of Diet. By J. Aldridge, M. D., M. R. I. A. Hodges and Smith, Dublin, 1847.

scurvy not occurring amongst the ancients, since we know how many far more glaring facts were passed over entirely, or only obscurely hinted at, not merely by the writers of antiquity, but by those of a later age. Still there is good reason to believe that scurvy was in ancient Greece and Rome infinitely less frequent than it was in the greater part of Europe two centuries since. To me the reason is found at once in the nature of their diet, which differed so very materially from that of the same class in our own day. All the nations of antiquity who have left behind them traces of their existence used a diet consisting principally of vegetable food, and vegetables too, the powerful anti-scorbutic virtues of which can admit of no dispute. The children of Israel, in their journey through the wilderness, longed for the leeks and onions and garlic which they had fed on in Egypt; whilst Herodotus tells us(*a*) that no less than 1600 talents were paid for the radishes, onions, and garlic consumed by the workmen employed in erecting but one of the pyramids. In Rome the "dura messorum ilia" were not less common; and the well-known proverb, δις κραμβε θανατον, proves that in Greece cabbage must have formed the most plebeian fare. Then, the ordinary drink and favourite condiment used, not merely by the soldiery, but by all classes, being vinegar,—"*Caulibus* instillat veteris non parcus *aceti*,"—and the wines commonly drunk being of that very kind, the use of which, before the employment of lemon juice, was found to give to the French navy a much greater exemption from disease than was possessed by our own seamen,—need we any longer wonder that, amongst the classical nations of antiquity, scurvy was, perhaps, unknown.

I cannot here enter into any consideration of the chemical errors involved in the different dietaries I have alluded to, as it would occupy much more space than would be proper in a paper of this kind; and besides, the reader will find the subject of dietaries for the poor discussed more ably than

(*a*) Euterpe, cxxv.

could be done by me in Dr. Aldridge's pamphlet, before referred to.

Age.—In *all* my cases, as well as in all those in Perth, Exeter, &c., the ages of the patients exceeded eighteen years, whilst at least two-thirds were beyond the middle period of life. The same tendency of the disease to attack adults or aged persons solely or principally, is discoverable in all the accounts of scurvy handed down to us by authors, with the exception of the description of several successive outbreaks of the disease in the Orphan-house at Moscow(*a*). There, however, although we are told that no child under two years of age was ever attacked, we are not informed what was the average age of the others, and the form of scurvy was in many respects peculiar.

Sex.—The very small number of females amongst those seen by me in this city is very remarkable; but the disproportion of sexes would have been greater were it not that I happened to meet with five cases of scurvy in females while these pages were going to press. Dr. Christison treated thirty-two males and three females, and this is nearly the ratio of the sexes in the cases sent to me from the country. Some practitioners, however, have never seen scurvy in a female, and others met with it most frequently in women. The comparative exemption of women and children from attacks of scurvy is hard to explain, but is supported by the experience of the older authors; women, however, living chiefly on bread and tea, the change of diet produced by the want of potatoes is to them, certainly, by no means so great as it is in the case of males. The Hottentots in the British army at Adelaide were completely exempt from scurvy in 1836, perhaps on account of their mirth and activity(*b*).

Previous Attacks.—Several patients were affected with scurvy a second time, under circumstances which gave support

(*a*) Philosoph. Trans., vol. lxviii. part i.

(*b*) Delmedge in Medical Gazette, vol. xxi.

to the received opinion, that those who have once had that disease are afterwards more liable to be attacked by it.

NATURE OF SCURVY.

Eugalenus, and most of the older authors, attributed scurvy to an alkaline state of the blood. Lind saw it produced in a gentleman by the extravagant use of carbonate of ammonia. And in modern times the notion has derived some support from the experiments of Magendie, Fremy, Andral, and Gavarret(*a*). Magendie even believed that he had produced a sort of artificial scurvy by the injection, into the veins of animals, of blood deprived of fibrine, or of a solution of carbonate of soda(*b*). To this excess of alkali has been attributed the non-coagulation of the blood spoken of by many authors; but, according to Rouppé, Busk, and others, scorbutic blood very frequently does coagulate. Again, Andral and Gavarret, from the analyses of scorbutic blood, ascribe the hæmorrhagic nature of scurvy to the diminution of fibrine. The diminution in the globules was also found to be considerable, but was not regarded as influencing the hæmorrhages. The same opinion is entertained on other grounds by Dr. Henderson(*c*); but the experiments of Rhodes, Busk, and Budd, are directly opposed to these results(*d*). Whatever may be the changes which take place in the composition of the blood in scurvy, it is evident that they must depend either on an alteration in the structure or action of those organs which form blood, or else in a defect in the quantity or quality of the food from which it is formed: in either case they are but effects, and not causes. Notwith-

(*a*) *Hématologie.*

(*b*) *Leçons sur les Phénomènes physique de la Vie*, vol. ii. 316.

(*c*) Edinburgh Med. and Surg. Jour., July, 1839.

(*d*) See the very learned and admirable concour thesis of my friend Professor Stoeber of Strasbourg, *De l'Influence que l'Analyse Chimique et la Micrographie ont exercée sur la Pathologie, et sur la Thérapeutique*. Strasb. 1845; also *Mém. de Méd. Chir. et Pharm. Milit.*, t. lix. p. 179.

standing, as *physical signs* of healthy or diseased states, chemical determinations of the qualities of the blood are most valuable. Little, however, has yet been done in this way, and perhaps it will be found that most of the alterations that take place in the vital fluid are of a physiological and not of a physical nature. Certain it is that chemistry has as yet done nothing to explain the nature of scurvy.

DIAGNOSIS.

Nearly all authors regard scurvy and purpura as the same disease, but I have observed very important distinctions between them, which are exhibited in the following table:

SCURVY.	PURPURA.
Most frequent after 18 years of age.	Most frequent between 5 and 18 years of age(*a*).
Males chiefly affected.	Females.
Gums more or less sore and spongy.	Gums bleed sometimes, but are never spongy, and rarely sore.
Ecchymoses more frequent than petechiæ.	Petechiæ-like spots frequent; ecchymosis rarer.
Shades of eruption the most various.	At first always dark-coloured.
Lower extremities almost exclusively affected.	All parts nearly equally.
Muscular indurations nearly always.	Never.
Hæmaturia almost never.	Not infrequent.
Bloody stools very rare.	Frequent.
Hæmoptysis (true) never.	Occasionally.

(*a*) Such s my own experience, which is also in accordace with that of Sir Henry Marsh and Drs. Stokes, Churchill, Hunt, and Law, as well as with MM. Barthez and Rilliet, who fix 9 to 15 as the period when both primary and secondary purpura occur most frequently,

SCURVY.	PURPURA.
Neuralgic pains(*a*) and pain in spots invariable.	Never.
Effusions in joints frequent.	Never.
Contraction of flexors frequent.	Never.
If not interfered with, lasting for months.	Rarely lasting more than a few days.
Frequently fatal if unchecked.	Scarcely ever fatal.
Always in connexion with an error in diet.	No such error discoverable.
Affects large numbers of individuals at the same time.	Sporadic; epidemics extremely rare.
Speedily cured by lemon juice and fresh vegetables.	Cured by turpentine and purgation.

If the foregoing Table be correct, and I think it will be found to be so, the differences between scurvy and purpura are surely quite sufficient to constitute them distinct diseases. The fourth class of cases will, when occurring sporadically, be always liable to be mistaken; but a careful examination of the state of the mouth and of the skin, together with the nature of the food used, will render the diagnosis, in general, sufficiently easy.

TREATMENT.

Succulent Vegetables.—The observations already made on the article of food have in great part pointed out the treatment. Although, however, we may be quite certain that a dietetic

(*a*) In speaking of pains I omitted to mention a symptom which I have frequently observed, and which was very well marked in a patient of Mr. Cusack's, viz., a pain in the left side, exactly like that met with in pleuritis. The natural pulse and absence of stethoscopic phenomena made diagnosis easy in all the cases of the kind (5) that occurred to me. The pain always disappeared, with the other neuralgic symptoms, by treatment directed to the scurvy alone.

error originated the disease(*a*), it no more follows that the removal of that cause will repair the mischief already done, than that the extraction of the weapon will cure the wound. Notwithstanding, in scurvy, in the vast majority of instances, little more is necessary than to secure to patients an abundant supply of succulent vegetables. When the garrison of Breda, defeated by disease, and not by the enemy, opened their gates to receive the Spaniards, the abundance of green vegetables that was brought in along with them, put an end to the scurvy in three days. And Lord Howe's fleet afforded an equally remarkable instance: owing to the extreme severity of the winter of 1794, vegetables were dear, and little or none were taken on board; the consequence was, that in a few weeks scurvy became so general that there scarcely remained enough of healthy hands to work the ships. Returning to Portsmouth in this condition, 5000 cwt. of salad per day was regularly distributed amongst the sailors, and in about three weeks the disease had entirely diappeared. The fleet then put to sea a second time, but the scurvy broke out again, when, on investigation, it was found that those who had not made use of the vegetables distributed to them before leaving port were the *only* persons attacked. My note-book supplies me with at least some hundred references to cases of a similar description, though not so striking. Those who feel curious upon the point will find quite enough in Lind's invaluable treatise. At Steevens' hospital, water-cresses and bread for breakfast; with fresh meat,

(*a*) Mr. J. Price, of Waterford, to whom I am indebted for accounts of a very large number of cases, and much information respecting the diseases of the season, in one of his letters writes thus, with respect to Waterford: "At first and till lately scurvy was nearly confined to a class above what could be called poor, such as shoemakers, carpenters, tailors, &c., and their wives, who had been living on bread and tea, or stirabout (mostly of Indian meal) and milk. The destitute were exempt from it. I really can attribute this to nothing else but the *soup given them by the Quakers, which was well seasoned with vegetables.*"

cabbage, and other vegetables, together with porter, for dinner; has been the treatment ordinarily employed; and the patients are generally cured in two or three weeks. My own patients, being chiefly very poor persons, used the same diet, with the exception of the flesh meat and porter, and their recovery was equally rapid; but the pallor and much of the feebleness did not so soon disappear, from the poorness of the fare which poverty compelled them to live on. In the South Dublin Union a little flesh meat and boiled cabbage, turnips, and parsnips, with porter or wine, was found always beneficial, but, without other means, generally tedious in effecting a cure. Dr. Corrigan's routine treatment was, a liberal diet of fresh meat, with bread, cabbage, leeks, and onions, and sometimes porter and wine. A drachm of spirits of turpentine was also given three times a day. The turpentine never produced purging, but seemed simply to stimulate: it was always used in connexion with leeks and onions, &c., and was believed to facilitate the cure. Recovery always began to take place in a week or so after admission, and few patients remained in the hospital more than a month. In my experience these different methods were tried under such very different circumstances that it is extremely difficult to compare together their therapeutic means alone; but the recorded experience of a host of observers in different countries would place leeks, onions, and water-cresses very high indeed on the list of antiscorbutics; whilst several, to whose works, however, I cannot at this moment refer, state, that boiling greatly impairs the value of cabbages and other vegetables used in the treatment of scurvy. Sorrel, which is much valued by the Greenlanders and Esquimaux, has been used with great success in different parts of Ireland during the present year; and boiled nettles, eaten like cabbage, have also been reputed efficacious. The following plants have likewise strong testimony in their favour: wall pepper, *herba vermicularis*(*a*); white

(*a*) *Miscel. Curios. Medico-Phys. Academ. Natur. Cur.* ann. 6 et 7, Obs. 22.

maiden hair, *ruta muraria*(*a*); pilewort, *chelidonium minus*(*b*). Dr. Aldridge, on chemical grounds, gives a decided preference to plants of the classes umbelliferæ and cruciferæ, on account of the quantity of sulphur which they contain; and, whether for this reason or not, there is no doubt that they are all highly antiscorbutic in their properties. The *cochlearia officinalis* is called scurvy-grass, in allusion to the purposes to which it is applied in the northern regions. Bachstrom, speaking of it, tells us of a sailor who was in such a wretched state from scurvy that he was put ashore on Greenland, and abandoned, in the belief that his recovery was impossible. By chewing the scurvy-grass that grew around him, he was in a few days enabled to rejoin his comrades, who thus became acquainted with the virtues of the plant. *Dried* vegetables are generally most disagreeable and difficult to take; and all kinds and preparations of *dried* antiscorbutic plants were tried by Kramer,—when, about the middle of last century, the Imperial troops in Hungary suffered so dreadfully from scurvy,—and they were all found utterly useless; but the few *fresh* plants that could be procured proved as efficacious as usual.

Vegetable Acids.—The extraordinary powers of the juice of oranges, lemons, and other hesperidiæ, in controlling the ravages of scurvy, are fully announced in the very first work (Ronsseus) in which the treatment of that disease is alluded to. In Kramer's excellent book it is also dwelt on, and the most striking instances, illustrative of its wonderful preservative powers, are found scattered through all the older authors; yet, with that singular perversity which mankind so often exhibit in regard to great discoveries, the real value of the remedy was not fully acknowledged until within a few years of the close of the last century. Few of our readers can require to be informed what scurvy was in former ages, parti-

(*a*) *Etmuller, Schroderi Dilucidati Phytologia.*
(*b*) *Act. Haff.* t. ii. Obs. 75; *Etmuller*, op. cit.

cularly when, in long voyages, large numbers of men were for many months kept crowded together in an ill-ventilated and filthy ship, and living exclusively upon dried provisions. More than one well-armed and powerful vessel of war has been seized, without firing a shot, by an humble merchantman, from her crew being unable to attempt a defence, or even to guide her course; and more than one treasure-laden galleon, from America or India, has been fallen in with at sea with every sail set and every spar standing, but on her deck only the putrid bodies of the miserable victims of the "seaman's plague." These things are known to every reader of history, though but few imagine that they belong almost to our own time. Admiral Hosier, in 1726, at Bastamentos, lost the entire crews of seven sail of the line, twice over, and died in consequence of a broken heart; and at the siege of Thorn, not long before, 7000 of the garrison, and a great number of the inhabitants, died of scurvy in the course of a few months; while the Channel fleet, after a cruise of a few weeks, has often sent ashore 2000 men affected with scurvy. By the writings of Lind, and the exertions of Sir Gilbert Blane, at length, in 1795, lemon-juice was ordered to be regularly used in the navy. In five months from this date 3000 severe cases, and twice as many slight ones, had been perfectly cured; and in two years so completely was the disease extirpated that its very name has not since been inserted in the printed returns.

I used lemon-juice in the treatment of two very severe cases: one, a patient in Camden-street, which has been before alluded to; the other, a man residing in Townsend-street. In both, the influence of the remedy was the most extraordinary thing I ever saw; the patients, who were regarded as in a hopeless state, being enabled to sit up and take their food with cheerfulness in the course of two days. Drs. Law, Hunt, Stokes, O'Ferrall, Kirkpatrick, and M'Clelland, have also used this remedy with the most favourable results. I gave half an ounce of lemon-juice, with sugar and water, thrice in the day. A

free state of the bowels sometimes followed its use, but this seemed always attended with benefit. Wine, added to the lemon-juice, as recommended by Lind, often had the effect of obviating the purging.

In the case of a gentleman affected with scurvy of a very severe description, who was attended by Dr. R. W. Smith, the eating a single *rhubarb tart* produced a most decided amelioration, equally sensible to the patient and to his friends. *Grapes* were found by Fodéré very useful, but only when they were *sour;* and Lind and Trotter ascertained by direct experiments that sweet, ripe fruits are very inferior, as antiscorbutics, to the same fruits unripe and sour. An old lady, who happened to see some of the drawings of scorbutic spots in my possession, informed me that a similar disease prevailed in her neighbourhood (County Antrim) in 1800, and that the peasants invariably cured themselves by drinking the expressed juice of *crab-apples.* Several of my country friends have prescribed "gooseberry fool" with great success. In short, there is, in my own mind, not the least doubt that acid fruits and green vegetables will be found to cure almost every case, and more rapidly than any other means.

Sir J. M'Gregor mentions instances of apparent ophthalmia, with conjunctival ecchymoses, which, after resisting for months every kind of treatment, were cured in a few days with lemon-juice. Cases, undoubtedly identical with his, I have already described; but many more, occurring in private practice, and not recognised, have been lately brought to my notice. They were all remarkable for their apparently unaccountable origin and utter want of amenability to treatment.

Citric acid, and lemon or orange juice, being both very expensive remedies, the very limited means at the disposal of most public institutions in this country renders some cheap substitute for it very desirable, and I was, therefore, glad to have an opportunity of seeing tested the efficacy of the combination of nitrate of potass with vinegar or lemon-juice, so very

strongly recommended by Drs. Paterson(*a*) and Cameron(*b*). The routine treatment of scurvy at the North Union Hospital for some months, has been the following mixture: nitre, two drachms; bitartate of potass, half an ounce; vinegar, with treacle, of each two ounces, and four ounces of water. Two table-spoonfuls of this mixture were given three times a day, and with very decided benefit. The medicine has an agreeable taste, and when it was wished to make it act on the bowels, it was only necessary to add a little more cream of tartar. This mixture has the great merit of cheapness; but from what I have seen of the treatment of scurvy, I should in all cases that it was possible to do so, give a very decided preferrence to the fresh vegetables with lemon-juice. Dr. A. Henderson states that an extensive experience at sea leads him to recommend, in very strong terms, nitre dissolved in plain water, and given in divided doses to the extent of from two to four drachms in the day(*c*). Dr. Henderson attributes *all* the success hitherto met with in treating scurvy, not to any medicine given, but to the good food, cleanliness, ventilation, and warm clothing used along with it,—a statement which, while we attach fully as much importance as he possibly can to these adjuvants, deprives his recommendations of whatever force his experience might give to them, by shewing him to be an enthusiast in pushing the claim of his own nostrum, and utterly blind to the great mass of evidence already upon record.

As we know that sorrel, one of the most efficacious of anti-scorbutics, owes its acid taste to a mixture of bioxalate and quadroxalate of potash, and as citric acid is easily resolved into oxalic and acetic acids, I have prescribed within the last few days, for some patients affected with scurvy, half a drachm of oxalic acid, with a scruple of liquor of potass, in eight ounces of water; an ounce to be taken three times a day; and in some

(*a*) Treatise on Scurvy, Ed. 1795.

(*b*) Letter to the Commissioners of Victualling, 1829.

(*c*) Ed. Med. and Surg. Jour. vol. lii.

other cases, the same amount of oxalic acid dissolved in eight ounces of vinegar, to be given in the same doses. The medicine has a very agreeable acid taste, and, so far as my trials have yet gone, seems to act very advantageously.

Bark, iron, and the mineral acids, I have seen used in several cases; but my experience of their efficacy is in perfect accordance with that of all those who have seen scurvy on an extensive scale. In a few cases they at first produce very beneficial effects, but they very seldom bring about a complete cure (unless, as in the case of a patient entering an hospital, where *dietetic* means are used along with them), and they are often worse than useless. An error of diagnosis had caused *mercury* to be administered in two cases that came under my observation: great increase of suffering was the consequence. Kramer tells us of 400 patients at Belgrade, to whom mercury was given, *with a fatal result in every instance.*

Several of the military medical officers at the Cape of Good Hope speak very strongly in favour of low diet, bleeding, and purging, in connexion with the use of vegetable acids, in the treatment of scurvy. They, of course, limit their recommendation to such cases as seem to be plethoric and able to bear depletion. In this country we never meet with such cases in hospital; but Dr. Stokes has observed much benefit to result from the repeated application of leeches to the discoloured parts, when very painful. The relief was in all cases both speedy and permanent. At most of the other hospitals cold water dressing was applied to the legs, and with a good effect.

The following are what I have seen most benefit from in relieving the state of the mouth: nitrate of silver applied solid; muriate tincture of iron; solution of chloride of soda; and lastly, more effective than any, undiluted tincture of rhatany.

The dry and unperspiring state of the skin in scurvy has at all times attracted the attention of physicians, and has led to the administration of diaphoretics, &c. They have sometimes been found beneficial where better remedies could not

be had. Warm and cold pediluvia, burying in the earth, &c., have also been used with the same intention, and with some success; but my own experience is well summed up in the words of a very old author:

"The scurvy is the most loathsome disease in nature; for which no cure is to be found in your medicine chest, no, not in the best-furnished apothecary's shop. Pharmacy gives no relief, surgery as little. Beware of bleeding; shun mercury as a poison: you may rub the gums, you may grease the rigid tendons in the ham, to little purpose. But if you can get green vegetables; if you can prepare a sufficient quantity of fresh, noble antiscorbutic juices; if you have oranges, lemons, or citrons; or their pulp and juice preserved with sugar in casks, so that you can make a lemonade, or rather give to the quantity of three or four ounces of their juice in whey, you will, without other assistance, cure this dreadful evil."(*a*)

As all the afflictive dispensations of Providence are productive of some good results, it is to be hoped that the general prevalence of a very serious disease, caused by an error in diet, will lead chemists, physiologists, and physicians to study the important subject of nutrition as applied to man (for the agricultural aspect of the question has been abundantly attended to), with increased diligence and zeal, and also induce those who have the management of public institutions to adopt a dietary based on those scientific principles which have already been amply sanctioned by experience. To such persons I know of no better guide than Dr. Aldridge's little work, before referred to.

Localities where the Disease has appeared in Ireland.—The first public intimation of the outbreak of scurvy in this country was contained in a notice by Dr. O'Brien of Naas, published in the Dublin Hospital Gazette, January 15th, and February 1st, 1846, of very peculiar symptoms caused by eating the diseased potatoes. Febrile symptoms, with diarrhœa

(*a*) *Krameri Medicina Castrensis.*

and an evanescent eruption, caused the disease to be mistaken for a gastro-enterite, and probably the bowels were really in some degree affected with inflammation in consequence of the indigestion of such very unsuitable aliment. The cases were very remarkable, from the head, neck, and upper extremities being the parts principally affected. In the Number of the same Journal for April 15, Dr. M'Cormick gave an account of the disease as it appeared in the county of Donegal, where his inquiries led him to believe it was then exceeding prevalent, and had existed for several months. Dr. M'Cormick was the first to point out the true nature of the affection; and his paper, which has been before referred to, is well worthy an attentive perusal. The forms of scurvy that he met with have been described in the foregoing pages. I cannot find that the disease was noticed anywhere during last summer; but Dr. Tabuteau, of Portarlington, met with it under a rather unusual form during the autumn and winter. He describes "ulcers of the fauces, discharging a thin, ichorous fluid, bleeding on the slightest touch, and exquisitely painful," as having been observed in almost every case; and says, the patients were principally those who had lived on the diseased potatoes, though the poor, fed on Indian meal, were not exempt.

This year we have information of the appearance of true scurvy in all the cities and large towns in Ireland, with but two exceptions, and all the dispensary officers with whom I have communicated have met with cases of the same disease. Drs. Little and Lynn, of Sligo, have "met with no instance of true scurvy, but innumerable cases of livid, ulcerated gums, analagous to scorbutus, severe cases of sloughing of the lips therefrom, and a few cases of purpura." Dr. Cuming, of Armagh, has not himself seen any cases, but he finds by inquiries of the officers attached to medical charities in his locality, that scurvy prevails there, with this peculiarity, that diarrhœa, anasarca, and desquamation of the cuticle on the arms, legs, and behind the ears, are very constant symptoms. In Waterford, Cork,

Kilkenny, and some other localities, such was the prevalence of the disease, that Dr. Tanner informs me he has frequently prescribed for twenty scorbutic patients per day at the South Cork Infirmary. In Cork, diarrhœa was a very constant symptom, and of course œdema frequently followed. Dr. Williams, of Castletowndelvin, has met with the disease equally in males and females, and no less than seventeen of his patients were aged from 2 to 16. A single case of a patient under the care Dr. R. W. Smith is the only other well-marked instance of scurvy affecting children that I have heard of in Ireland. Dr. Cane's letter on the peculiarities of the disease in Kilkenny will be laid before the reader in the present Number, and Dr. Lalor, of the same city, has met many cases of the disease. In all parts of Ireland the change from the use of potatoes to a diet of Indian meal, or more frequently bread and tea, was the imputed cause of illness.

In concluding this paper, which I find has grown to dimensions far beyond what I anticipated in the commencement, it only remains for me to express my warmest gratitude to the many gentlemen who have contributed the materials for its composition. In addition to those already mentioned, I am also indebted, for cases, observations, or general information, to Dr. Fuller, of Oswestry; Dr. Daly, of Hull; Drs. Hobson and Whittle, of Liverpool; Dr. Watson, President of the Faculty at Glasgow; Dr. Townsend, Cork; Dr. Daly, Mallow; Dr. Rogan, Derry; and Mr. M'Swiney, of this city. Dr. Griffin, of Limerick; Dr. Fitzgerald, of Bruff, in the same county, and Dr. Cuppaidge, of Castlerea, county Roscommon, are the only gentlemen who have not met with scurvy; and, from the inquiries which they have instituted, the disease would appear not to have broken out in these counties, although I am not at present in possession of any information which would serve to explain this anomaly. The addresses of the above gentlemen sufficiently shew that the disease has made its appearance in all parts of Ireland, and, probably, equally exten-

sively in Great Britain. I am informed that nearly all the labourers on the Glasgow and Montrose railway (3,000) have become scorbutic from living on bread and coffee.

A number of letters requesting information on the subject of this epidemic having been addressed to practitioners in different parts of the country, their answers have been incorporated in the foregoing essay. The following communication, however, which the Editor has just received from Dr. Cane, of Kilkenny, is, from its length, its accuracy, as well as the peculiar features and extreme virulence of the disease in that locality, worthy of insertion separately:

"*The purpuric fever* is a subject deserving the utmost attention, and full of the deepest interest, not merely upon the grounds of the novelty to us of many of its symptoms, but as modifying many of our views, and as affording matter for deep consideration in connexion with dietetics and hygiene.

"I do not know whether under the word you mean merely the fever with purpuric eruption, and with or without hæmorrhage; or whether you include with it the deadly diarrhœa, dysentery, and anasarca, which, as emanating from the one cause, might be comprehended under some generic term. But this is a matter for your consideration, and I should rather detail than theorize.

"The epidemic here has been of a very mixed character, including febricula; simple fever, from stomach derangement; the petechial, or maculated fever; and the fever with purpura. This latter fever has been very frequently complicated with hepatic derangement, and in many cases with intense jaundice, and not unfrequently with nasal or other hæmorrhage. The tendency to bowel disease has been very great: in some cases it was present all through the fever, but in most cases it came on as the fever went off, setting up its own peculiar fever. It very frequently made its first appearance in the convalescent wards; but, whenever it appeared, it soon

became most unmanageable, and has been fatal in a vast majority of cases, constituting the great bulk of the present mortality. *Post mortem* examinations revealed, very generally, extensive ulcerations along the alvine track of mucous membrane; but I apprehend that ere the ulcerations formed there was a general constitutional tendency to serous effusion, not merely from the bowels, but everywhere, as most of those patients became rapidly œdematous or anasarcous, and rarely complained of pain or tenesmus, or abdominal irritation of any kind, until lax bowels had been present for days, and the body had become swollen, the aspect tallowy, and the lips blanched,—a sort of anemic or chlorotic aspect, remarkably characteristic of the disease and of the class,—for this form of the disease appeared only amongst those who were poor and badly fed.

"The fever accompanying the purple eruption was sometimes extremely active, but very frequently extremely mild; it was usually ushered in with a rigor, hot skin, moist, white, or light brown tongue, and quick pulse; the eruption was characterized by its purplish colour, and its not disappearing upon pressure with the finger, like the petechiæ of ordinary fever; this eruption sometimes appearing towards the close,—sometimes as though it were critical,—fading off in five or six days,—the fever occupying ten or twelve days. The spots varied from the size of a flea-bite to ecchymoses the size of the hand, and, in some bad cases, separated the cuticle like pomphylix, being filled with reddish serum. In those cases, the slightest pressure, or knock against the bed, or squeeze of the nurse's fingers, would form ecchymoses. In the majority of cases the spots were few and scattered; but in others thickly studded together.

"It would seem as if the one cause had differently affected different portions of the capillary system: the blood capillaries let out their contents in the subcutaneous tissue, constituting purpura and ecchymoses; in the cellular membrane, constituting œdema and anasarca; in the bowels, constituting diar-

rhœa and true bloody flux, which is more frequently present than the muco-sanguineous stools of dysentery. From some of the *post mortems* it would seem as if the ulcerations in the small intestines were *on the mouths of the lacteals.*

"Latterly I have seen some cases of the purpuric fever amongst the better or more comfortable classes, but at first it was principally among the poor; and the peculiar diarrhœa, and the anasarca, were, and still are, peculiar to the poor, the ill-fed, ill-housed, and the miserable. The purpuric fever is communicable by contagion; at first, endemic to famished districts and classes, then epidemic, then contagious.

"Relapses, or forms of secondary febrile attacks, without the spots, are frequent after the purpuric fever. In these relapses there is usually much gastric and hepatic derangement. The green vomit is of very frequent occurrence.

"The fatality from the purpuric fever has been small, but from the diarrhœa and anasarca the mortality has been immense.

"The number of cases presenting large ecchymoses, and with tendency to rapid gangrene from slight pressure, have greatly diminished of late. This I consider to be consequent upon better feeding, as well as on the influence of better weather: but at first (some three or four months ago) every ward held one or two cases where, from the appearances on the arms, and over the scapulæ and hips, a physician unacquainted with the disease would suppose the patient had been bruised or beaten; and in such patients the slightest bruise or pressure caused blackening, and subcutaneous effusion of blood. At that period, too,—whether in the petechial or purpuric fever,—there was a great tendency to gangrene; gangrene of the buttocks, of the rectum, of the soft parts over the scapulæ, of the toes, of the pudenda, of the lips, of the cheeks and throat. There were cases of cancrum oris amongst adults, and in one remarkable case gangrene in the larynx, one of the cartilages of which was spit up. These terrible symptoms are much less frequent now.

"The complication of jaundice with purpura has been very remarkable, and these cases, where large purple specks rested upon a yellow skin, were quite subjects for the artist. I would not, however, venture to theorize much upon this complication, because the tendency to jaundice has been rather great even in the better classes, and with other diseases. I saw it occur here in gout, and in two remarkable cases of pneumonia, where the sputa continued, for days after the inflammation had subsided, so decidedly icteric as to stain the shirt and linen yellow, and to look itself like saffron-water.

"You have used the word *scurvy*, and unquestionably these diseases and symptoms are analogous to the state of the system which that name designates; it is a sort of 'famine poison.' I consider that the purpura, with or without its hæmorrhage, the diarrhœa, whether serous and nonsanguineous, or sanguineous, and the anasarca, are all results from one cause,—a deteriorated state of the system. I will not stop to argue whether the effusions resulted from deterioration of the blood itself, or were the result of relapsed and feeble capillaries; I will leave the humoralist to dispute it with the solidist; but the human mass was poisoned, and bad food, defective in quality and quantity,—and, in many cases, a mischievous nutrition, from unwholesome diet, produced the state of the human body leading to these maladies.

"The purpura I have been describing is exceedingly rare amongst the better classes here; when they get fever,—and it (fever) is extensively spreading amongst them,—they get the fifteen days' maculated, measly, or petechial fever; but there is a portion of the better classes and also of the well-fed who get the purple fever,—they are the physicians and chaplains of the workhouses, fever hospitals, and dispensaries,—men who have already had petechial fever, and are not likely to have it again, but who, daily and hourly breathing the poisoned atmosphere where the sick are crowded together, become at last saturated,

as it were, with the endemic poison, *and they are liable to take the purple fever.* Of this I have seen several instances."

Dr. Cane has likewise furnished us with a series of most graphic illustrations of the purpuric fever, and several of its symptoms and complications. From these it would appear that the disease in Kilkenny has been more acute in its attacks than with us. Communications of the nature of the above are of immense value; we earnestly invite our other country brethren to afford us some.—Ed.

Art. VI.—*On the Mortality of Medical Practitioners from Fever in Ireland.* By James William Cusack, M. D., President of the Royal College of Surgeons, and William Stokes, M. D., Regius Professor of Physic in the University of Dublin.

It is necessary to state the circumstances which have induced us to direct our attention to the subject of this paper, the importance of which requires no comment, particularly at the present crisis.

In the year 1843 the Medical Charities Bill was brought forward, and we were not without hope that some recognition of the labours and risks of our professional brethren in Ireland would appear in the Act of Parliament; for we felt that the amount of these labours, and the nature of the risks, were not known to the Government.

In common with most of the hospital physicians and surgeons of Dublin, we had to deplore the loss of many of our most meritorious pupils, who, after a brief period of country practice, had fallen victims to typhus fever contracted in the discharge of their duties; and we felt that justice required not only that the remuneration for attendance on fever hospitals and dispensaries should be fixed at a liberal scale, but that some provision ought to be made for the widows

and children of gentlemen who had lost their lives in the public service. We shall shew, even from a limited and imperfect investigation, that the risk of life in the public medical service of this country is so great, as to demand the serious attention of the Legislature.

We had long mutually lamented the hardships to which medical practitioners in this country are exposed, and we came to the conclusion, that, if a correct statement of the average mortality of the medical profession in Ireland was submitted to Government, it could scarcely fail of making a suitable impression, and exercise a favourable influence in determining the scale of remuneration for attendance on fever hospitals or dispensaries.

In order to arrive at some determinate data, we addressed a circular to a considerable number of physicians and surgeons in Ireland, to the effect,—that as the regulation of the medical charities of Ireland was a question in which the Government and the Profession were much interested, we were induced, by a sincere desire to promote the welfare of our medical brethren, to request of them to furnish us with returns of professional mortality.

To this letter was appended a number of queries, relating to the names and localities of the different medical institutions; the number of medical attendants who had been employed in them during the last twenty-five years, or since their establishment; the number of medical men who had died while serving in them; the cause of death; and the number who had suffered from fever and other infectious diseases.

The statistical results obtained from the answers to this communication shall be presently considered; but before entering on them we wish to remark on the peculiar circumstances, in relation to attendance on fever, to which the Irish practitioner is exposed.

It is an admitted fact that, from whatever cause, or combination of causes, it may arise, Ireland has, from an early

period, been far more productive of continued fever than either England or Scotland. Epidemics, affecting great numbers of persons, have succeeded one another at short intervals of time; and it rarely happens that the towns are free from fever, while minor outbreaks of the disease occur continually in the rural districts. In this way Ireland may be said to be never free from fever, which, though necessarily not arising from contagion, is propagated by it in the most decided manner.

The extent to which fever exists in Ireland, and its influence on the mortality, has been strikingly shewn by the returns of the late Census. Mr. Wilde has given a table of the mortality from fever, and the general mortality of the province of Leinster for ten years, ending in June, 1841, a period, be it observed, not characterized by any remarkable epidemic of fever. From this it appears that, while the total mortality was 317,802, that from fever was not less than 29,821, amounting, as Dr. Graves observes, "to a fraction less than one-tenth of the whole mortality; whereas, in London, the fever deaths do not amount to more than one-fiftieth of the total deaths. This difference becomes more striking from considering that deaths in Dublin from fever are actually double the deaths from the same cause in London. The last Census made the population in London amount, I believe, to one million and a half, while that of Dublin is three hundred and sixty-two thousand."(*a*)

This is not the place to enter on the question of contagion at any length; for our purposes it is sufficient simply to state that we believe the disease to originate in combinations of causes, the exact nature of which has not been ascertained. When produced, however, whether in isolated examples or in epidemics, it is propagated by contagion, and that to a degree far more remarkable than what is observed in cholera. Of the propagation of fever in Ireland by contagion we have already observed that we have no doubt, but it may be right to state,

(*a*) Clinical Medicine, p. 46.

in general terms, the kind of facts on which our conviction is founded. They are:—

1st. The number of cases of the disease occurring in individuals intrusted with the medical care of the sick, including physicians, students, nurses, and clergymen.

2nd. The circumstances attending its spreading in families.

On this subject the late Dr. Whitley Stokes, in his Observations on Contagion, published in 1818, has the following important remarks. After speaking of the fact, that in a family of twelve the disease had been known to visit eleven individuals, and that thus three months had passed before the family were free from the disease, he observes:

"In the general course of the epidemic, in the district in which this family resided, one out of seven took the fever. Had the family consisted of fourteen it might have been said, before the epidemic, that if two of that family sickened they bore only the average share of the general calamity; in the family of twelve, the sickening of two would have been more than their average share, and the sickening of eleven so much more, that the chance against that event would have been nearly 189,600,000 to 1.

"I proposed the following problems to a friend particularly acquainted with this species of computation:

"Problem the first.

"An epidemic prevails so severe, that one out of seven sickens. A family of twelve is selected in a particular district, before the epidemic has visited it; what is the chance that eleven out of that family shall take the disease, supposing the sickness of one of the family does not promote the sickening of another, and supposing the family not unusually liable to disease?

"Answer; the probability against the event is, 189,600,000 to 1, if the population amount even to seven thousand.

"Problem the second.

"The same general conditions being assumed, and also that

the number of the inhabitants in the district in question is seven thousand. What is the chance that in any family of twelve, within the district, eleven will sicken?

" Answer,—it is above 300,000 to one, that no family of twelve persons in a population of 7000 will have eleven sick.

" All this according to the conditions that the sickening of one does not promote the sickening of another."(*a*)

It is admitted that the mortality of fever is much higher in the better than in the lower classes of society; and it is certain it will be found that, when medical men are attacked with the disease, it is eminently malignant. This remark applies to the cases of medical students as well as to those of practitioners. In Ireland few medical men escape fever; though, in several cases, the disease did not occur until the individuals had attained advanced age. Of this the cases of the late lamented Drs. Clifford, of Trim, and Lloyd, of Roscommon, are examples, and others might be adduced.

The opinion commonly received, that the individual who has once had typhus fever is safe from future attacks, is not well-founded. That a certain degree of immunity is thus produced, we think, is certain; but that many persons in Ireland have suffered from a second, or even a third, attack of fever, at long intervals of time, must be admitted. Our returns shew that in several instances the medical officers of dispensaries have had typhus fever more than once; so that the going through the ordeal of fever,—always, as we have already stated, a most trying one to the medical man,—has not even the advantage of assuring him against a second attack, the more serious as he will then be more advanced in life, his vital powers lower, and his moral energies more exhausted.

It is difficult to explain why the fevers of medical men should be so commonly of a bad character. That the virulence of the disease is proportioned to the dose of contagion we be-

(*a*) These calculations were made for Dr. Whitley Stokes by the late celebrated Dr. Brinkley, Lord Bishop of Cloyne.

lieve; and when it is considered that many of our brethren have been exposed not only to a concentrated contagion, but that the morbid influence has long acted upon them, we can conceive why their fevers should be so severe. And it too frequently happens that, urged on by a sense of duty, they continue their exertions, although in the earlier stages of the disease; and, while already the marked victims of fever, they still labour to save their fellow-men.

Whatever be the cause, it is certain that the fevers of medical men in Ireland are almost always of a bad character; and this even when the epidemic is not of the worst kind. The fever is generally of a low type, with eruptions of maculæ often coming out at a late period of the case. Nervous symptoms, of all the phenomena of fever the most alarming, commonly exist to a great degree. And as a result of this condition, the use of wine, which, among the lower orders, has so happy an influence on the disease, can, in many cases, be used but sparingly, if at all; and this at a time when the debility and prostration calls for its exhibition. If to this we add the injurious influence which the knowledge of danger must have on the system of a man feeling that he is struck down by the disease under which he has seen so many sink, and tortured by the thought of leaving a young and unprovided family, we can understand how it happens that the country is so often deprived by death of so many of its best educated and most devoted servants.

Thus, the medical practitioners in Ireland are placed in a position very different and far more serious than that of their brethren in Great Britain; for while the latter have only to contend with infectious fever occasionally,—and, rarely indeed, in the rural districts,—the Irish physician has to combat it in all situations, and at all seasons; and, in consequence of the peculiar condition of the peasantry, expose himself, often under the influence of cold, wet, fatigue and hunger, to its most concentrated contagion.

The system adopted so generally in Ireland, of isolated dwell-

ings, has an important influence on the fatigues and risks of the practitioner. The poor cottiers live, for the most part, not in towns or villages, but in their solitary cabins, on their plots of ground, and are thus removed from many of the advantages of social life: their dwellings are hovels, and scattered over the length and breadth of the land; and when an epidemic visits the country, it is easy to see that the position of their inmates must be, to the last degree, unfavourable; their distance from the residence of the physician, or from any other means of assistance, is a cause why disease may continue for days in the family, unknown to any but its members. Want, damp, dirty habits, and bad ventilation, all concur to render the disease virulent; and by the time that the medical man visits the sick, the hovel, with several of its inmates in malignant typhus, is one focus of concentrated contagion.

The causes, then, which appear to us to account for the remarkable mortality of medical men in Ireland may be thus enumerated:

I. The constant existence of fever in the country.

II. The frequent epidemics of the disease.

III. Its highly contagious nature.

IV. The want of ventilation and cleanliness in the houses of the poor.

V. The fatigue consequent on visiting a number of houses scattered over large and often wild districts.

VI. The moral and physical depression which the repetition of these influences is sure to produce on the practitioner, particularly when he reflects on his frequent inability to relieve the victims of want and disease by whom he is surrounded.

The mortality of medical men in the cholera bears no comparison to that from fever. In Ireland the number of medical men who sank from cholera was comparatively small, and, except at Sligo, there was no important loss of life among physicians. Very few students or nurses contracted the disease; and we are fully warranted in the statement that the contagion of cho-

lera, even in its earliest outbreak, had much less intensity than that of typhus, as it permanently exists in Ireland.

Let us now turn to the evidence afforded by the information acquired by the returns to which we alluded at the commencement of this article.

It must, however, be particularly borne in mind, that these researches do not approach a later period than 1843, and, consequently, the calculations grounded upon them do not apply to the question of the mortality induced by the present epidemic. This will require another and a separate inquiry, to which we earnestly invite the attention and co-operation of our brother practitioners.

From the returns to our inquiries, when statistically arranged, we learn that, during the twenty-five years prior to the date of the returns in 1843, 1220 practitioners were in charge of 406 medical institutions, a number very much less than in reality exists, or had existed during that period; but the error, if error there be in these as well as the other numbers in these returns, is to be placed to the credit side of the account, for the errors have been those of *omission*, not of commission. It must also be remembered, that the entire 406 medical institutions from which returns were received have not existed for anything like twenty-five years; but this error is likewise to be placed to the same side of the account. Of the 1220 medical men who have occupied these situations during the period specified, 300 have died prior to 1843,—nearly *one-fourth* of the whole, an immense mortality, when we take into account the ages at which the deaths occurred, and consider the various other circumstances attending this calculation.

Now, when we reflect that the nearest and most accurate approach to a general average mortality in Ireland is but one in fifty-two at all ages; and when we consider that the mortality among medical men above specified must have been chiefly spread over a period from twenty-five to fifty years of age—the usual age of medical men holding dispensaries,—it makes the

mortality among this class enormous. These deaths, moreover, it must be remembered, do not include those of the apothecaries, assistants, pupils, deputies, or other constituents of the medical staff attached to these institutions; nor do these numbers include the physicians, surgeons, pupils, and apothecaries unattached to public medical institutions, hundreds of whom must have died within the period specified. Of the entire deaths, 132 died of typhus fever, or nearly in the proportion of three to seven from all causes. It is proper here to remark, that the 168 deaths from other causes, not typhus fever, include many from other contagious diseases, cholera, scarlatina, &c., also acquired in discharging the public duties attached to the institutions which these medical officers served. 568 out of the 1220 suffered from typhus fever, or forty-six per cent. of the whole; of these 568, twenty-eight had fever twice, or 1 in every 20; and nine three times, or 1 in every 63, to speak in round numbers. As we already remarked, certainly one-half of the 406 medical institutions had not been in existence during the first twelve and a half years over which the inquiry extends; and it is evident that, by lessening the periods, the mortality must be increased: these are, however, statistical speculations, in which we would rather not indulge. The cities of Dublin, Belfast, Cork, Kilkenny, Galway, Limerick, &c. (nor, in fact, any of the large towns, such as Sligo, &c.), have not been included in these returns, which have been received from dispensary and fever hospital attendants almost entirely located in the rural districts. On this account, the returns, with few exceptions, have no reference to the mortality among the infirmary surgeons and the medical attendants in the cities and larger towns, which we know to be considerable.

We learn from the Census of 1841, that the proportion of deaths from fever to the mortality from all causes was 1 in every 10.59, and 1 in 3.4 of the deaths of the total class of epidemic diseases; whereas the deaths from fever among the medical profession, as far, at least, as these returns enable us to judge

(and it must be remembered that they necessarily omit a great number of deaths), shew a mortality of not less than 1 in 2.29.

. We are able, in part, to supply the omission of town mortality of medical men from Mr. Wilde's special Sanitary Report on the city of Dublin, where we find that thirty-six medical practitioners died of fever during the ten years over which the Census inquiry extended; and that the average age at which death took place among the class ministering to health, and including physicians, surgeons, apothecaries, veterinary surgeons, midwifes, and nurse-tenders, was from thirty to thirty-five in males, and fifty-five to sixty in females; the entire number of deaths being 112 males, and nineteen females.

Some explanation seems necessary to account for the interval which has been allowed to pass since these investigations were made. The results of the first investigation gave an amount considerably beyond what even we feared did exist. This was stated in our evidence before the select Committee of the House of Commons, and we determined to repeat the inquiry. The facts, therefore, which we now place before the public and the profession are the result of a double investigation.

The following extracts from our evidence in 1843, we give, not only to corroborate the above statement, but to remove any suspicion that we had taken up the subject lightly or hastily. The period which has passed, now four years, has only increased our conviction of the truth of the returns.

In answer to a question of Lord Eliot's, as to the necessity of removing medical officers from public situations, it was answered:

" 1941. It is a very delicate matter to turn an old officer out who has had an attackof paralysis, or is broken down by the hardships of the profession; and there is great difficulty in arranging matters as to the removal of an officer from infirmity. I apprehend that, the moment the board is established, there would be few appeals for even inattention; but such would happen sometimes. The greater number of incompetent persons removeable would, I think, be referable to disease, most probably acquired

in the discharge of their duties. In connexion with Dr. Stokes, I endeavoured to ascertain the mortality of the profession, but the return was so formidable, so shocking, that we were afraid to bring forward the statement we had made up, and we are trying to verify it. We were afraid to bring it forward, because the statement might be questioned."—*Mr. Cusack's Evidence, Parliamentary Report*, p. 160.

" 2037. *Chairman.*] Can you state whether the salaries of the medical men in Ireland attending charitable institutions are sufficient or otherwise?—In my opinion they are not sufficient, particularly in the dispensaries; and the reason I give that opinion is, that it is a fact that in Ireland a medical officer runs a greater risk of death from contagious disease than perhaps in any country in Europe.

" 2038. Have you taken any means to ascertain that?—Mr. Cusack and I have been during the last year engaged in an investigation upon that point, and it was our wish to have it completed so as to lay it before the Government, and also this Committee, but it has not yet been completed; but the results, as far as we have gone, shew a very appalling mortality of medical men; and I know the fact from my own personal knowledge, for such a number of my pupils have been cut off by typhus fever as to make me feel very uneasy when any of them take a dispensary office in Ireland; I look upon it almost as going into battle.

" 2039. Is it your opinion that the fever is peculiarly fatal to the medical men in Ireland?—It is peculiarly fatal to medical men.

" 2040. *Chairman.*] Do you attribute the great mortality of the medical men to the want of ventilation in the hovels of the poor which they visit?—Most cases of fever of the medical officers of dispensaries seem to be attributable to the medical man having to enter the miserable hovels of the people, and to expose himself to concentrated and violent contagion."—*Dr. Stokes' Evidence, Parliamentary Report*, pp. 166–7.

To dwell at much greater length on the facts brought for-

ward in this communication would be unnecessary, for they speak for themselves, and sooner or later must have that good result which ever follows the statement of a truth. The researches only come down to 1843, and refer to the previous quarter of a century; but it is our intention to carry them on so as to ascertain the amount of medical mortality for the last four years.

We have the authority of Inspector-General Marshall for stating, that from January, 1811, to May, 1814, a period of forty-one months, or three years and a half, sixty-six officers were killed in battle in every thousand, and thirty-seven died by disease, making 103 deaths from all causes, or about ten and a quarter per cent.; but the mortality of the medical practitioners in Ireland, during a period of twenty-five years, is twenty-four per cent., to speak in round numbers. When to those considerations we add the appalling fact, that of the deaths of the medical men in Ireland, one out of every 2.29 has occurred from fever, the danger which attends the discharge of public medical duties in this country becomes sufficiently manifest.

It is time that these circumstances, for which scarcely a parallel can be found, should be known and duly considered; and the Government, while it, on the one hand, seeks to remove the causes of the spread of fever in Ireland, should, on the other, provide that the poor and destitute man shall not receive inferior or insufficient medical assistance; and reward with no niggard hand, and encourage by every means in its power, the exertions of a class of gentlemen, we fearlessly assert, the best educated, the least prejudiced, the bravest, and the most philanthropic, in the community.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. *On the Preparation of Food for the Labourer.* By Sir Henry Marsh, Bart. Dublin, M'Glashen. 1847. pp. 10.

2. *On the comparative nutritive and pecuniary Values of various kinds of Cooked Food, and the Chemical and Physiological Laws which must be adhered to for the beneficial Use of Diet.* Read at the Agricultural Meeting of the Royal Dublin Society, on the 6th of April, 1847. By John Aldridge, M.D., M.R.I.A., Professor of Chemistry to the Apothecaries' Hall of Ireland, &c. pp. 20.

3. *Reports from the Central Board of Health to the Central Relief Commission of Ireland, on the Administration of Food.*

A deep debt of gratitude is due by the inhabitants of Ireland to the noble-hearted Americans and Englishmen who have so liberally subscribed for the relief of the starving peasantry of this country. The only way in which this debt can be repaid, is by the free expression of the sense of this obligation which is entertained by every right-minded Irishman. We feel assured that those who are readiest to proclaim their gratitude under such circumstances would be the first to reciprocate the benefit if it were necessary; and we very much doubt, whether any of the writers, whose taunts we are sorry to see occasionally in the London newspapers, have ever subscribed a shilling towards the fund which they make the subject of self-glorification. In accordance with these sentiments, we sincerely thank the benefactors of our country, for their generous assistance in her hour of trial. There are other wants in Ireland, however, besides that of raw material of food,—and other means of philanthropy besides the giving of money. The peasantry of Ireland, living hitherto on potatoes, have been ignorant of the proper mode of preparing for human use other articles

of diet; they did not experience a necessity for a knowledge of the simplest cookery. Upon the failure of the potato crop, and its attempted substitution by other kinds of food, this total ignorance presented a great difficulty; it became requisite for the authorities to make arrangements for having the food cooked for the people, who were unable to prepare it for themselves. Dispensation of cooked food, on a scale of great magnitude, thus became necessary; and scientific aid was required to construct a dietary at once economical and sufficient. These have been the circumstances which have occasioned the appearance of the documents at the head of this Article.

Doctor Aldridge's Essay is chiefly devoted to the demonstration of the principles which should govern the dietary of the human race. With this object he lays down the following laws, as those regulating the proper alimentation of a healthy man.

1st. The daily food of an adult must contain elements equal to the daily waste which he undergoes; the food of the young must contain elements equal to the waste *plus* the surplus growth; and, in both cases, these elements must be ready combined in the proportions necessary for building up the various tissues.

2nd. This food is most easily obtained by combining, in proper proportions, flesh or seeds, for the supply of the nitrogenous elements of waste, with succulent stems, roots, or leaves, for the supply of the inorganic elements of waste.

3rd. The bulk of this food should be adapted to the capacity of the digestive organs.

4th. The essential elements of food should ordinarily be administered in a form as nearly solid as is consistent with its being agreeable to the taste, leaving it to the instinct of the individual to gratify the demands of thirst.

In the examination of particular kinds of food, he finds that seeds and flesh are usually deficient in sulphur and the alkalies. Thus, in adults of ten stone weight, the loss of sulphur, *per diem*, is about twenty grains, and of potash and soda eighty-four grains. The quantity of wheaten flour requisite for supplying the waste of nitrogen and all the other elements, contains, however, but seventeen grains of sulphur, and forty-three grains of the alkalies. In a similar manner the weight of peas, in other respects sufficient for supplying the daily loss by waste, contains only eleven grains of sulphur and fifty-five of alkalies. Dr. Aldridge considers that it is this deficiency of mineral ingredients in flesh and seeds which occasions scurvy. The herbaceous parts of vegetables, on the contrary, while deficient

in nitrogen, abound in mineral elements, and thus he accounts for their prophylactic and curative influence in this disease. Again, he shews that growing animals require a much larger quantity of lime than is requisite to form bone-earth, while seeds are very deficient in this element. These are the considerations which lead him to his first and second propositions. The third proposition, the truth of which is self-evident, forbids the use of the herbaceous parts of plants as the sole material of human food. *To this the potato is an exception, containing, in a bulk not too considerable, all the necessary elements for the supply of waste.* The fourth proposition is supported by a number of facts, well known to the breeders of cattle.

We are glad to find that the Central Board of Health has largely availed itself of the views of Dr. Aldridge. We shall quote from its Second Report such extracts as appear to be of chief value, and which are nearly all contained in Dr. Aldridge's pamphlet.

"The allowance of rice which may reasonably be made in lieu of Indian corn meal should not be less than one pound and a half of rice in lieu of one pound of Indian corn meal, where either grain is given alone; and the same proportion should be observed in a mixed ration, viz., if half a pound of Indian corn meal be given instead of the standard ration of one pound, there should be given along with it three quarters of a pound of rice to make the mixed ration equivalent to one pound of Indian corn meal; and in like manner of all other proportions in which rice and Indian corn meal mixed may form a ration.

"It is true that rice, by steeping and boiling, may be made to furnish a larger bulk of apparently solid food than will be furnished by an equal quantity of Indian corn, and hence has probably arisen the supposition of its being more nutritious; but the bulk thus obtained is deceptive as to the quantity of nutriment afforded. Rice contains about eighty-five parts in every one hundred of starch. A given quantity of it will, by steeping and boiling, absorb a very large proportion of water, and will swell into a large and apparently firm mass; but this mass will contain a very small proportionate quantity of nutriment. A very simple experiment will satisfactorily illustrate this:—One ounce of common starch boiled in the ordinary way will form, with a pint of water, a firm mass, which, from its apparent consistency, will seem to be good, substantial food; but the bulk thus formed, it is obvious, contains very little nutriment. In like manner of rice; one pound of it may be made to form, with water, a starchy mass of five or six pounds weight; but the produce, as in the experiment of the starch, is bulk without equivalent nutriment.

"The Board of Health, although admitting the advantage of bulk occasionally acquired in food by cooking, yet, taking into con-

sideration one of the forms of disease now prevalent in Ireland, do not recommend that rice should be used with the object of giving bulk by the absorption of watery particles; but, on the contrary, that cooked rations should be given out in as solid a form as possible, leaving it to the natural feelings of thirst to supply the quantity of fluid necessary for healthy digestion. With the object, also, of obviating the general predisposition to relaxation of the bowels, which will probably increase as the summer advances, the Board of Health recommend the addition of some of the ordinary condiments to the stirabout, of which perhaps pepper will be found the most acceptable and the cheapest.

"A form of disease, now very prevalent among the people, resembling in many particulars sea scurvy, is connected with, or dependent on, a defective nutrition, arising, not from deficiency of quantity, but from a deficiency of quality or variety in the food. The potato, although not containing a large proportion of nutriment, is remarkable as containing within itself all the varied elements necessary for forming healthy blood; no one of the substitutes for it, with the exception of oatmeal, possesses this remarkable property; and hence the use of more than one article of food is necessary in order to secure a sufficient supply of the varied elements of nutrition, and thus to obviate the form of disease referred to.

"With this principle in view, the Board of Health, as the season of the year now gives facilities for it, strongly recommend the admixture of onions, leeks, scallions, or shallots, in cooked meal rations, or stirabout, which will both act as condiments, and will also furnish some of the elements of nutrition essential for forming healthy blood. Onions are so rich in nutritive qualities, that, as a mere article of food, one ounce and a half may be considered as equivalent to about one ounce of meal. On every opportunity, the importance to health of using vegetables, such as carrots, parsnips, turnips, and cabbage, along with meal, should be impressed upon the people.

"It may not, perhaps, be out of place in those observations to make the people generally acquainted with the high nutritive qualities of beans and peas, which, weight for weight, contain from ten to twelve times as much nutriment as potatoes. In those countries where rice is very extensively used as the food of the people, experience has taught them that rice by itself has low nutritive qualities, but that the deficiency can be supplied by adding about two ounces of beans, peas, or lentils, to each pound of rice. It must, however, be remembered, that with beans or peas some other vegetable food must be used, as, although possessing in a high degree some of the most important elements of nutrition, they nevertheless do not contain a sufficient variety of other nutritive elements to support the human body in health."

Sir Henry Marsh's pamphlet is just what might be expected

from a physician of so high and deserved a reputation. It contains many valuable suggestions with respect to the best mode of cooking food, and fully bears out the principle that the solid form is the most advisable for its exhibition. This *brochure,* written before the establishment of the existing model-kitchen, contains the following passage, p. 8:

"I wish some person practically skilled in the construction of boilers, ovens, and furnaces, would furnish a model of a soup-kitchen, cheap in material, simple in construction, and capable of effecting the double object of baking and boiling with the least possible expenditure of caloric. Most willingly would I give a prize for such a model. I think it would be a subject worthy the attention of that public-spirited and useful body, the Dublin Society."

It is a curious coincidence that, on the very day the above was published, M. Soyer's model-kitchen was first opened for the relief of the poor; and that on the evening of that day Dr. Aldridge, in addressing the members of the Royal Dublin Society, should say:

"In the name of the Irish people, I thank M. Soyer for what I believe to be his purely philanthropic intentions towards them. He has given to us two boons of no ordinary value,—a model dispensing kitchen of great ingenuity, and a method of economic cooking far superior to any to which the poorer order of our countrymen have hitherto been accustomed."

We have thought it right, at the present epoch, to put on record in our pages our grateful estimation of those who, by their money or by their talents, have assisted in the relief of our suffering fellow-countrymen.

Observations on the Connexion between Famine and Fever in Ireland and elsewhere. By H. Kennedy, M. B., &c. Dublin: Hodges and Smith, 1847. 8vo. pp. 50.

We have perused this pamphlet, and find it to contain evidences of very considerable research. It is written in answer to Dr. Corrigan's tract on the same subject, which appeared last year, and which was reviewed in our second Number. We here quote the conclusions to which the Author has arrived.

"1. That, with our present knowledge, we are not justified in attributing other results to the use of bad or deficient food, than that, in the first instance, it injures the health, by weakening the bodily

frame; and, if pushed further, will cause death from pure starvation.

"2. That, in the first degree, bad or deficient food predisposes to the engendering of several diseases; fever amongst the rest.

"3. That, should fever exist, and famine with it, the latter will aggravate the former, just as a very inclement season, or want of fuel or clothing, will do.

"4. That the proper way to account for the frequent occurrence of famine and fever, at the same time, is to consider them as the offspring of one common cause.

"5. That, no other theory will account for all the facts of the case.

"6. That, the common cause, known to authors under the name of an "epidemic constitution," is shewn usually by a general increase in sickness and mortality; by the occurrence of epidemics amongst the lower animals; by the destruction of vegetable life; by a sudden increase in some of the specific contagions, as small-pox; by marked atmospheric changes; and, when this general cause, whatever it be, is very powerful, by the rapid decay of substances, such as silk, cotton, &c. &c.

"7. That we are still ignorant of what the permanent cause and spreading of epidemic diseases, including fevers, depends upon."

Before quitting our notice of this *brochure*, we may mention our regret that the author should not have availed himself, to the extent which he might have done, of the sources of Irish statistical record which lay within his reach. We also strongly object to vague references to "ancient Irish annals" for authority in matters of history, whether medical or general. We have already seen to what purposes such inexact references may be turned by some of our antiquaries. This is an archæological age, and its principles should extend to medical as well as general literature.

We beg to direct the attention of those collecting materials for future essays on Irish famine to a tract which has lately issued from the London "Irish Office," entitled "Famine in Ireland, 1840–41."

Thoughts on the Nature and Treatment of several severe Diseases of the Human Body. By E. J. SEYMOUR, M.D., F.R.S., late Physician to St. George's Hospital, &c., &c. Vol. I. 8vo. Longmans. 1847. pp. 260.

IN the volume before us Dr. Seymour presents to the profession the results of his extensive experience in the treatment of diseases of the stomach, gout, mental derangement, and

sciatica. If it receive a favourable reception, it is his intention to continue his "Thoughts" in one or two other volumes of a similar character.

We look upon such a book as this as a debt justly due by the senior members of the medical profession—more especially those who have enjoyed extensive practice, to their junior brethren; we are, therefore, at all times inclined to receive the payment of such debts with gratitude, and, using the hand of the gleaner, rather than the knife of the critic, to gather for our readers some of those practical hints, which are the necessary result of experience.

One fault, however, we cannot, in duty to ourselves, omit noticing,—a fault to be found in the works of most English physicians, with a few honourable exceptions,—that is, the omission of any notice of the discoveries or contributions of Irishmen to medical science. With this omission we were struck in the very first pages of Dr. Seymour's book: for, in the third page, when speaking of the exact nature of the acid in the natural condition of the stomach, he ascribes to Magendie and Berzelius the discovery of its being the lactic; and in a foot-note, which he states was furnished to him by Dr. Bence Jones, physician to St. George's Hospital, this discovery is stated to have been made by Berzelius in 1830. Now, so early as the year 1824, Dr. Graves proved the identity of the acid of the human stomach and lactic acid, in a paper published by him in the fourth volume of the Transactions of the Association of the King and Queen's College of Physicians in Ireland.

In his chapter on diseases of the stomach, Dr. Seymour's "Thoughts" are directed chiefly to the treatment of pain occurring in that viscus, and of obstinate vomiting. Where pain does not depend on organic disease, and is accompanied by water-brash or palpitation, he finds that it usually yields to the regular administration of a powder consisting of six grains of rhubarb, fifteen of bicarbonate of soda, three of calumba, and two of aromatic powder, taken daily, for at least a fortnight, in a glassful of water, before dinner, or at bed-time; and where pain is the most obvious symptom, without heart-burn or vomiting, the best remedy, in his experience, is the combination of trisnitrate of bismuth with magnesia:

"But where the pain has resisted this treatment, and emaciation is very great, so as to give alarm lest there should exist organic disease, as of fungus or cancer, the best remedy is a grain of opium thrice daily, the bowels being kept open by means of injections, the food being animal principally, and in small quantity."—p. 7.

Having shortly but clearly noticed the various causes of

vomiting, and the treatment ordinarily employed to check it,—adding that, in his own experience, turpentine is the best remedy in hæmatemesis, and from half a grain to a grain of opium made into the smallest-sized pill, in long continued vomiting, where all else has failed,—the author proceeds to describe that very rare but very dangerous form of vomiting, the iliac passion, from his own successful treatment of the only three cases he ever met with. In one case, which he saw with the late Dr. Warren, the usual symptoms were present:

"On the matter vomited floated portions of fæces, so much formed as to leave no kind of doubt of their nature; and this kind of sickness rendered the patient quite miserable in addition to her other sufferings. I remained several nights in attendance, and at last succeeded in allaying the irritation in the following manner, all medicine having been vomited previously: two grains of calomel, made up with a grain of the soft and recent extract of opium (without gum) into the smallest pill possible, was given; and when the spasm or endeavour to vomit returned, the patient was obliged,—I had best say forced,—to take half a bottle of soda water in a state of active effervescence. The expansibility of the gas, and the downward impression in swallowing, had the desired effect. After three successive doses had been taken in this way no vomiting occurred, and, as far as my memory guides me, after the fourth dose a relief was obtained by ordinary efforts downwards, and no more sickness ensued."—p. 44.

In the second chapter, after a few preliminary remarks on the different forms of gout, Dr. Seymour passes in review the many remedies that have been formerly, and are at present, employed in the treatment of this disease, commenting on each as he proceeds. We shall condense for our readers some of his judicious and highly practical observations.

The practice of applying leeches, followed by emollient fomentations, to the inflamed part in gout, so highly praised by the modern French physicians as the most certain means of alleviating the pain, our author does not approve of; for, in every case in which he has seen it tried, the attack became unusually long, though the pain was in the first instance relieved. Dr. Seymour speaks in the highest terms of colchicum:

"In gout, especially in gout originated from excess, in strong, violent, painful gout, it may be given, not only without fear, in moderation, but with almost an absolute certainty of relief, without any bad effects, either immediately or remotely following its use."—p. 93.

The preparation he especially recommends is the wine of the root, and he dwells much on the advantage to be derived from its continuance in small doses (fifteen drops every night, for even a twelvemonth) after the immediate distress has disappeared. The ill effects which occur in many persons subsequently to the use of colchicum, and which are ascribed by some physicians to that medicine, Dr. Seymour thinks, and we fully agree with him, should be rather ascribed to the patients themselves, who, overjoyed at their easy and speedy recovery from a fit of the gout, make no kind of alteration in their mode of living, and, being usually advanced in life, of indolent habits, and luxurious livers, die of an apoplectic seizure, when, of course, the unlucky colchicum is blamed.

In the commencement of a severe attack of the gout the author, in general, prescribes twenty minims of the wine of colchicum root, with ten grains of magnesia, in ten drachms of camphor mixture, twice daily; and at night, three grains of the acetous extract with five grains of Dover's powder: and this treatment, he says, may be persevered in with good effect for several days, provided it does not produce either vomiting or active purging; if either occur, it must be immediately stopped. For a diet-drink he recommends, at the same time, a pint of the decoction of burdock root (made by boiling slowly two ounces of the sliced root, well washed, in a pint and a-half of water, down to one pint, and straining), to be taken in the course of the day and night, with or without an equal quantity of milk.

Of external applications in gout, Dr. Seymour thinks that oil-silk is the most useful; but he approves of it only in early and very acute cases, as in the less fully developed forms it is of little service; and, as life advances, he has known it often to produce mischief.

The third chapter, which contains the author's thoughts on mental derangement, we have perused with much interest. It is chiefly devoted to the consideration of the benefits which Dr. Seymour has derived from the employment of narcotics, especially the acetate of morphia, in the treatment of melancholia and of suicidal insanity. In the commencement of the chapter we find a remark which has frequently occurred to ourselves, and of the truth of which we are firmly convinced, that in the present day it has become too much the fashion to treat all sorts of madness on what is called the *moral* plan, to the total exclusion of *medical* treatment. We are glad to find this opinion now publicly promulgated by Dr. Seymour, who

for eight years filled the office of one of the Metropolitan Commissioners of Lunacy; and we anticipate that much good will result from the publication of his experience.

We have mentioned above, that the form of mania which is most relieved by the use of the acetate of morphia is melancholia, tending to suicidal madness; but insanity which arises immediately after parturition is equally amenable to similar treatment. The mode of administering the medicine we give in Dr. Seymour's own words:

"It has generally been, in mild cases, my practice to begin by a quarter of a grain every night, in solution; then, after a week, to increase this to half a grain: it has rarely in such cases been necessary to increase the dose beyond half a grain. In severe cases, I begin with half a grain, and increase it speedily to a grain; rarely, most rarely, beyond this dose. The medicine is given at bed-time, the period which is intended for sleep; but it must be repeated without the *intermission* of a single night, for several weeks in mild cases, and for, at the least, three months in the most severe ones."—p. 159.

For fifteen years the author has employed this mode of treatment; he has seen seventy cases recover, and in only twenty has it failed, or given temporary relief; for no case is called a recovery unless two years, at least, of unabated health have elapsed since the treatment concluded. In most cases it is necessary to remove the patient from his family; but Dr. Seymour insists, as an indispensable requisite to the cure, that the patients be not left to the tender mercies of their keepers, but in every case a near relative or friend must live in the house; of course such friend need not see the invalid when it is thought to be improper.

Dr. Seymour does not appear to have employed morphia in many cases of the excited forms of insanity; at least he has not found its employment so useful as to induce him to give his experience of its efficacy in such cases. Since we first read his book we have had an opportunity of using the muriate of morphia with the most complete success in a case of mania, which was characterized by excitement,—continued laughter, shouting, singing, and some violence,—but without much aberration of intellect. This was the fifth attack which the individual had had; and in the last one he was confined for three months in a lunatic asylum. We administered the muriate of morphia, in solution, in doses of a fourth of a grain every sixth hour, using no other medicines except mild purgatives to regulate the bowels, and the patient recovered completely on the eighth day.

We have now so nearly exhausted the space allotted to us, that we are unable to notice the fourth and last chapter in this volume,—on sciatica. This we the less regret, as we wish our readers to consult Dr. Seymour's book for themselves; and we assure them that they will find there many practical hints, and many "thoughts" useful for the hour of need. We cannot take leave of our author without expressing the interest with which we look forward to the one or two other volumes he promises, and entreating him to lose as little time as possible in giving them to the profession.

Practical Observations on the Pathology and Treatment of certain Diseases of the Skin generally pronounced intractable. Illustrated by upwards of forty Cases. By Thomas Hunt, M. R. C. S., &c. London, 1847. 8vo., pp. 156.

The views advocated in the present volume have already formed the subject of a series of papers which appeared in the Lancet during the early part of the year 1846. The experience of another year having confirmed the author in his opinions, he has been induced by the suggestions of his friends to offer them to the profession in a more elaborate form, and thus to submit them to the test of more extended experiment, as well as to the ordeal of public criticism.

The diseases selected for discussion are lichen, prurigo, lepra, psoriasis, pityriasis, chronic urticaria, purpura, impetigo, ecthyma, eczema, acne, sycosis, lupus, and nævus araneus.

In grouping together these affections of the skin, some of which will be found distributed among several different orders of Willan, the author states that he has found it necessary to pay very little respect to their elementary forms, but wishes rather to direct attention chiefly to certain extraneous circumstances frequently connected with their history and development, which are liable to be overlooked, or too slightly regarded, in practice. Thus he hopes to simplify their treatment, and to rescue them from the "unfounded charge" of being "refractory," "obstinate," "notoriously rebellious to all modes of treatment," "unmanageable," "inveterate," "incurable." To the diseases above-mentioned his remarks are almost altogether confined; and of these he asserts that, "in their uncomplicated forms, they are all as amenable to enlightened medical treatment as any diseases which are generally considered curable by artificial means."

As the first step towards simplifying the subject of cuta-

neous pathology, Mr. Hunt reduces all chronic, idiopathic, and constitutional affections of the skin, to *one disease.* He says:

"Differing widely one from another in their eruptive forms, and scarcely presenting one positive, palpable, and distinctive point of resemblance to each other respectively, they may yet be regarded as *one disease,* manifested in different individuals by different kinds and degrees of cutaneous inflammation or irritation; sometimes producing no eruption at all, yet exciting an intolerable pruritus; but more generally manifested by an eruption, papular, scaly, exanthematous, vesicular, pustular, or tubercular, as the case may be; and in more rare instances exhibiting simple enlargement of vessels without inflammation, or spots of extravasation only, the texture of the vessels giving way under the morbid influence."

What this constitutional lesion may be, which gives rise to so many different external forms of disease, Mr. Hunt is not prepared to determine. He suggests that "its seat may be in the nervous system, or it may possibly consist of some unhealthy condition of the circulating fluids, which the yet imperfect discoveries of chemistry have hitherto failed to detect." In the concluding observations he seems inclined to favour the former opinion, and to consider "the nervous system as the *fons et origo mali.*" However difficult of decision this point may be, we cannot agree with the author that "the question is rather curious than practical." On the contrary, we view the subject as one of great interest and importance, and one in the highest degree worthy of minute and accurate investigation, if we wish to rescue our treatment from the charge of mere empiricism.

In the diagnosis of these disorders, Mr. Hunt deems it of comparatively little consequence to what order or genus the case may be assigned. He directs his attention, in the first place, to the determination of the question, whether there be reason to suspect the existence of syphilis or not. If the eruption be of syphilitic origin, it must of course be treated with reference to that disease; if not, the next point is to ascertain whether the eruption be complicated with any other local or constitutional deviation from health, and especially whether there be a febrile condition of the system, or any indications of increased vascular action.

In the treatment the author very judiciously recommends that "every obvious local or constitutional disorder which may happen to complicate the eruption, and which in some cases originate and sustain it, must be rectified if possible." Disordered secretions must be attended to, derangements of the

digestive organs regulated, and the general health, if it require it, restored, "before especial attention is directed to the cutaneous affection, except in those cases in which the health suffers as a result, and not as a cause of the eruption."

When symptoms of increased vascular action or febrile excitement are present, Mr. Hunt employs active antiphlogistic treatment previously to the exhibition of alteratives. In such cases we fully coincide in the opinion that depletory measures and cooling regimen are necessary; but we believe that few of our readers will be inclined to adopt, and few patients submit to, the energetic practice he insists on. He says:

"The most tormenting cases of skin disease often consist of extensive inflammatory action of an acute type, but of long duration, thus combining the acute and chronic character. We find a quick, full, hard pulse, a skin universally warmer than natural, and in the diseased portions the patient suffers extremely from sensations of burning, smarting, itching, pricking, and stinging. The blood taken from the arm will occasionally, but not always, be found both cupped and buffy. If these symptoms occur in a plethoric subject, a second or third bleeding, each one *ad deliquium*, will probably be required at intervals of a week or ten days; and leeches must be applied occasionally to the red margins of the more recently affected portions of the skin. In addition to this, it may be absolutely necessary not only to restrict the patient to a low diet, but to administer active aperients, salines, and antimonials, in doses which will not severely rack the stomach, an organ which it is important to keep in tone during the treatment of these diseases. This system must be pursued for days, weeks, *and even months*, if necessary, until the smarting and tingling has in a great degree subsided, and the cool skin, quiet pulse, and tranquil nights, suggest that the period is arrived for the commencement of the alterative treatment."

The efficacy of external applications is altogether denied by Mr. Hunt. He asserts that "there is no sort of reliance to be placed upon them," and that "they should be used with great caution." Warm or tepid baths of fresh water, he admits, often prove a source of much comfort to a patient in the febrile stage of chronic cutaneous disease; but fomentations, in his opinion, only serve to amuse the patient, whilst medicated and hot-air baths, sea-water, "the thousand-and-one ointments, lotions, and other applications," are, one and all of them, either injurious or unnecessary.

Against this sweeping condemnation of external appliances we must beg leave to enter a decided protest. The test of experience has fully convinced us that baths, when employed with judgment and perseverance, form a valuable adjunct to the constitutional treatment of chronic cutaneous diseases.

From the use of vapour-baths, especially, we have in numerous instances observed well-marked amelioration of the symptoms. The vapour of water, either alone or mildly medicated with appropriate remedies, and at a suitable temperature, soothes and allays cutaneous irritation, promotes or restores the natural secretion of the skin, and thus reduces the local inflammation as well as the general febrile excitement of the system.

Of the numerous alteratives which have been proposed for the internal treatment of cutaneous affections, the only one on which Mr. Hunt relies with confidence is arsenic, which, he affirms, "under proper regulations, acts with such uniform efficiency as to leave nothing to be desired." Arsenic has for a long period being extolled for the cure of chronic diseases of the skin, and various formulæ for its exhibition have been recommended; the deleterious effects, however, which have occasionally followed its administration, have deterred many practitioners from employing it for any length of time, even in minute doses.

The author has certainly watched the effects of this powerful remedy with extreme care, and the results of his experience form an excellent history of the phenomena to be expected under its use. The preparation which he prefers is the liquor arsenicalis, or Fowler's Solution; and the peculiarity of his mode of administering it is, that he commences with full doses, five minims three times a day, and continues it in *gradually decreasing doses.* By adopting this method, he assures us that it may, under favourable circumstances, be safely persevered in for weeks, *months*, or *years*, together, and "will be found to exercise an almost omnipotent influence over the cutaneous diseases under review."

The first evidence of the physiological action of arsenic is generally a mild degree of conjunctivitis, accompanied sometimes with slight swelling of the eye-lids: this symptom indicates that the medicine has produced its legitimate effect, which may now be kept up for a sufficient period by reduced doses.

"A full dose being first administered at regular intervals, in a few days (or possibly weeks), a pricking sensation is felt in the tarsi, and the conjunctiva becomes slightly inflamed. *At this crisis the disease is brought under arrest, and generally from this period appears to be shorn of its strength.* The return of healthy action in the cutaneous vessels often becomes visible, and is sensibly felt by the patient on the very day on which the eyes become suffused with tears. The dose may now be reduced; and in some cases a very small dose, taken with exact regularity, will suffice to keep the eyes tender and the skin healing, until at length even the disposition to disease appears to die away under the influence of the poison."

Individuals who have been subjected to large or increasing doses of arsenic, frequently feel the effects of its cumulative power on the sensorium; and are rendered, for months or years subsequently, so intolerant of this medicine as to be unable to use it even in the smallest doses:

"A patient consults us for a disease of the skin: we administer arsenic in doses of five minims of Fowler's Solution three times a day; and the patient complains in a day or two of nervous tremors, disturbed rest, horrible dreams, and other affections of the sensorium; and if we persevere the disease seems to evade the healing influence of the arsenic. Upon inquiry it is found that the patient has previously been taking arsenic in large or increasing doses; the system is already impregnated with the poison, and thus unfitted for its further exhibition."

In some instances the intolerance of arsenic in the usual doses appears to exist as a natural idiosyncrasy; this circumstance, however, Mr. Hunt has not found to prove an insuperable impediment to its exhibition; exceedingly small doses sufficing, in such cases, "to control diseased action after it has been once arrested by a competent dose at the commencement." In illustration he relates the case of a lady who had been a valetudinarian for twenty years, and who had always been unusually susceptible of the action of mineral substances, in whom a *fourth part of a minim* of Fowler's Solution (one 1-480th of a grain of white oxide of arsenic) taken three times a day for a month, effected the permanent cure of lepra alphoides.

Another peculiarity in the effects of arsenic, which the author has frequently observed in persons of fair complexion or delicate skin, and which, he states, has been hitherto unnoticed by writers on this subject, is this:

"That, whereas conjunctivitis is a primary effect of small doses of arsenic, it has also after a time a secondary effect. The trunk of the patient first, and subsequently all those parts of the body which are by the dress protected from the access of light and air, become covered with a dirt-brown, dingy, unwashed appearance, which, under a lens, reveals a delicate desquamation of the dermis, and is, in fact, a faint form of pityriasis. This may be considered as a secondary form of arsenicalization; for I have observed that, when the primary dose is diminished on the appearance of conjunctivitis, the eye-lids may be allowed to get well, yet, if the patient's skin be kept *brown*, the disease will vanish just as rapidly as though the conjunctivæ were kept sore."

The second section of the work consists of cases exhibiting the result of Mr. Hunt's method of administering arsenic in diseases of the skin. In these reports much useful information

will be found, though their most striking characteristics are confidence and determination on the part of the practitioner, only equalled by compliance and enduring perseverance on the part of the patient. In the remarks appended to some of the cases, as well as in many other parts of the work, we are sorry to observe an unpleasant tone of egotism, and a disposition to disparage the views of all other writers on cutaneous diseases, which is quite unnecessary for the establishment of truth.

The third section comprises general observations on the preceding cases; and the fourth, which concludes the volume, is devoted to the question, "are local diseases ever salutary to the system at large, and are there any cases which cannot be cured without risking the general health"? Mr. Hunt's opinion is:

> "That the fear of the metastasis of local disease, under enlightened treatment, if not a mere bugbear, has certainly little foundation in fact; and that, in the rare cases where such a tendency may be supposed to exist, it may be counteracted by watchful and judicious management."

Mr. Hunt's work is purely practical; he proposes no theory. He asserts, and evidently believes, that, after due preparation, and with proper management, arsenic is capable of curing permanently all chronic diseases of the skin; and, to convince his readers, he has collected with care, and enforced with enthusiasm, every fact and argument that could be made available to the support of his favourite principle. As a treatise on the administration and effects of arsenic in the treatment of cutaneous diseases, this work is worthy of attentive perusal.

Disinfecting Fluid. Copy of Reports of Dr. Southwood Smith, Mr. Grainger, and Mr. Toynbee, and Physicians, Surgeons, and others, at Dublin. Supplement, &c. Ordered by the House of Commons to be printed. July, 1847. pp. 46.

THE public mind of England is diseased: manifestly, there must be an unhealthiness in that state of national opinion which can afford nourishment to every species of quackery and humbug. When we see fungi abounding on a plant, or parasites preying on an animal, we are led to assume the operation of some cause leading to decay and rottenness; and we are justified in coming to a similar conclusion when we behold such creatures as the Morrisons and Holloways battening on the credulity of a nation. Perhaps the reason of this diseased con-

dition of public opinion may not be difficult to ascertain: we think that it proceeds from the effects which the mighty achievements of some individual Englishmen have produced upon the uninformed minds of the masses. Were we to take this Report as a specimen, we would say that the English, as a nation, were remarkable for their ignorance; and that, when compared with the French, Germans, Danes, or Swedes, their want of education stood out in strong relief. The nobility, gentry, and clergy have, it is true, learned a smattering of the classics; the middle classes have a mechanics'-institute-and-lecture-room acquaintance with the odds and ends of science; but no voluminous monograph or systematic treatise, such as we see constantly emanating from the French and German presses, could find a sale in England; manuals constitute the staple of her present literature. Such, generally speaking, is the state and means of mental culture in England; and yet Englishmen have wrought the most astonishing combinations of modern times: in England the steam engine first put into play its giant powers; in England gas was for the first time conveyed through miles of streets to illuminate her cities; England led the way in that mighty revolution in the social condition of the human family which is operating through the means of railways. Looking at these great works, without being in a condition to comprehend the steps which led to their establishment, the effect has been similar to that which might be produced by magic, on the public mind of England. It has been said, that wonder is the effect of novelty upon ignorance: and there being presented on every hand monuments of the triumphant efforts of intellect and genius, the astonished and ignorant stand agape, and are ready to receive the advances of every charlatan who promises a new wonder. Such, it appears to us, is the explanation of the extraordinary gullibility daily manifested by the British people, a gullibility of which there is a numerous tribe of native and foreign knaves always ready to take advantage.

We have been led to these reflections by a perusal of the document, the title of which is given at the heading of this article. This paper, which is published by order of the House of Commons, and at the national expense, in this year of great monetary depression, purports to contain copies "of any letters or reports received by the Chief Commissioners of Woods and Forests, from *Manchester*, *Liverpool*, and *Ireland*, on the Efficacy of Monsieur Ledoyen's Disinfecting Fluid." It opens with a letter to Lord Morpeth, signed by "Ledoyen," and "A. C. Calvert," calling his Lordship's attention to "a statement of the different objects to which M. Ledoyen's pro-

cess can be applied with success;" moreover, professing that the writers "have no sordid views;" that they "wish to avoid, if possible, being forced to form a company, and make it the traffic of speculators;" and ending with a "hope to find in your Lordship that which your Lordship is so well known to possess, benevolence and charity to all men." Then comes the "statement," in which it is said that "M. Ledoyen, chemist of Paris, and Mr. F. C. Calvert, professor of chemistry, late of the Garden of Plants at Paris, and pupil eight years of Monsieur Chevereul, at present lecturer at the Royal Institution, &c., at Manchester, have discovered the means of disinfecting all fœtid animal substances and gases by a liquid which is very cheap, simple, and can be applied by any person with the greatest facility. It disinfects night-soil, not destroying, but increasing vegetation, more particularly as regards agriculture, completely preventing the disease in potatoes, when the land is manured with disinfected night-soil. It disinfects hospital-wards of miasma; also cellars, water-closets, and buildings infected by impure gases. It disinfects sailors suffering from fever on board of vessels; it will also disinfect ships at sea, and under quarantine. It disinfects patients suffering with infectious disorders and wounds, also dead bodies, so that they may be kept nearly a month; also different parts of the body can be kept for the purposes of dissection, for coroners' inquests, &c."

It may easily be imagined the delight which this communication must have produced in the bosom of the First Commissioner of Woods and Forests; it was a mare's-nest of the greatest promise; it offered a panacea for all the ills that burden her gracious Majesty's advisers. Are the potatoes threatened,—here is a prophylactic; does fever rage throughout the land,—here is a magic scarf which, moistened with "the liquid," and waved through the wards of an hospital, immediately cures all the patients; are the higher classes fearful of impending contagion, vases of "the liquid," rose-scented, and distributed through the apartments, will, by their protective influence, dispel every uneasiness; is a Health-of-Towns Association tormenting the First Commissioner, what an agreeable means of propitiating its members, growling at the postponement of their bill, will be the present of a liquid, cheap, simple, and easily applied, which is capable of removing every odour, no matter how unpleasant. No fear of another Boa Vista catastrophe; the decks need only be washed with a few gallons of "the liquid," and infection becomes impossible. We declare that we do not in the slightest degree exaggerate the promises which

Messrs. Calvert and Ledoyen hold forth. They say that their discovery is capable of preventing the potato disease, curing fever, destroying contagion, and removing all disagreeable odours. Is it any marvel that Lord Morpeth should direct his secretary to acquaint Colonel Calvert that he had—

"Prevailed upon Dr. Southwood Smith, Mr. Toynbee, and Mr. Grainger, to witness and test any experiments which he may submit to them, having for their object the disinfection of dead bodies, ulcers," &c.

Yet, Lord Morpeth ought to have hesitated before he gave the sanction of his name to an investigation of professions so profuse: although his Lordship, in common with his order, is probably not very profound in chemistry and physiology, he ought at least to be acquainted with the English language. We suppose he knows the meaning of "infection;" and he should have seen some inconsistency and confusion in the language which spoke, in the same breath, of "disinfecting" a water-closet and a fever patient; of preserving potatoes from the rot, and pickling subjects for dissection.

However that may be, we are next presented with the "Report on M. Ledoyen's Disinfecting Fluid. To the Right Hon. Lord Morpeth, First Commissioner of Her Majesty's Woods and Forests, &c. By Dr. Southwood Smith, D. R. Grainger, and Joseph Toynbee, Esqrs." According to this Report,

"This fluid does not possess any peculiar power in preserving the dead body from decomposition, and that, therefore, it is not applicable, to any considerable extent, to purposes of dissection: it removes the fœtor of putrefying substances, vegetable and animal, by decomposing the sulphuretted hydrogen upon which that fœtor chiefly depends."

It appears, moreover, from this Report, that this substance converts the volatile ammonia, generated in putrefaction, into a fixed salt, useful in agriculture; but there is at the same time formed a metallic compound, the effect of which on vegetation is confessedly unknown to the Commissioners.

Among the scientific experiments upon which the Commissioners arrived at these results, we beg to introduce one as a specimen:

"We have had an opportunity of trying the effect of this fluid in a sick chamber in a private family. A small quantity was put into a close-stool before the invalid used it. Upon uncovering and emptying the stool only a very slight smell could be perceived in

the room, although, on a previous occasion, when the stool was used without the fluid, the stool was extremely offensive."

We again read, that by saturating the bed-clothes with the so-called disinfecting fluid, the laundresses and other persons engaged in the cleansing of such, are, in the opinions of the Commissioners, most probably protected, "and prevented from receiving a shock which is never recovered, even when death is not the immediate result of the attack." But how many cases of painters' cholic and paralysis would follow, the Commissioners have not offered a conjecture upon(*a*).

At page 12 we meet with an omission which certainly appears to us extraordinary in a parliamentary document, and has a savour of quackery, which even a "disinfecting fluid" would not remove. The passage we allude to runs thus:

"M. Ledoyen's disinfecting fluid consists of ——————————————————; the action of this preparation is to decompose sulphuretted hydrogen, &c.

Who directed this omission?—the reporters or Messrs. Calvert and Ledoyen; the printer's devil, or the Viscount Morpeth. So much for the facts arrived at in the Report before us. Let us now see what substances are capable of destroying the odour of sulphuretted hydrogen, and forming a fixed salt with ammonia. We shall give a list of many such:

Sulphate of copper.	Nitrate of silver.
Nitrate of copper.	Chloride of gold.
Chloride of copper.	Protochloride of tin.
Super-nitrate of bismuth.	Perchloride of tin.
Nitrate of lead.	Nitrate of mercury.

We can assure Lord Morpeth that a solution of any one of the foregoing salts will produce the effects attributed in the Report to M. Ledoyen's disinfecting fluid; they will be found all equally effectual; and it therefore comes to be a mere pecuniary question which of them ought to be preferred. It is plain that, however wonderful the disinfecting nostrum may be to the inhabitants of Cockaigne, it is really no secret to the scientific world.

There is not a word of evidence in the document before us as to the influence of this solution of nitrate of lead in curing,

(*a*) This fluid has been examined by Dr. Aldridge, and found to be a solution of nitrate of lead. Sir W. Burnett has introduced the chloride of zinc for similar purposes in the navy.

or "disinfecting," as they call it, by its vicinity, fever or other infectious diseases. Of course, no professional man (except Dr. Southwood Smith) could bring himself to support such an absurdity as that would amount to. With respect to the potato disease, Dr. Smith has been even less guarded. He manured portions of his garden with his disinfected night-soil, and finds that potatoes grown on these spots are finer than elsewhere. He says: "I have this day had specimens of them examined by Mr. Alfred Smee, who pronounces them to be at present perfectly healthy." What! not a single aphis vastator! Oh, genius of humbug! how numerous are thy votaries. Truly, successful speculation constitutes the idolatry of this age, and the wonder-workings of pseudo-science its superstition.

Before we conclude this article we have a few plain words to say, and we will speak the more plainly, because it is evident that the upper and middle classes are extremely ignorant of all that relates to life and health. Well, then, in the first place, a disagreeable odour does not constitute infection, although a stink may, under certain circumstances, afford a valuable index to infection; thus, in the wards of an hospital, if the medical attendant has his sense of smell unpleasantly assailed, it is a signal that ventilation has not been sufficiently attended to, and he can, accordingly, order this neglect to be remedied; but if the caretakers of the ward have at their disposal an agent for conquering this stink,—a liquid, which, upon being poured into the chamber-vessels, or sprinkled on the ward, will remove all unpleasant effluvia,—then the safeguard afforded by the senses becomes nugatory: the unpleasant odour is removed, but the contagious poison continues and accumulates. It is like taking away the beacon, while the rock remains. Such a substance may lessen the trouble of the night-men and wardsmen, and dissecting-room porters, whose eulogistic testimony to the value of M. Ledoyen's fluid, is published by the House of Commons in the paper before us, but we feel persuaded that its employment would prove very injurious in practice.

We have another observation to make, and that in a very serious spirit. The facts are these: the originators of this *imposture*, we can give it no other name, came over to Dublin avowedly under the patronage of Her Majesty's Government; they sent round a circular to officers of the municipality, professional men, &c.; they asked for inquiry: this was responded to. They were treated with hospitality, became intimate in families, were furnished with testimonials by some few, and subsequently

corresponded with by others with whom they had formed acquaintance. What will it be thought of by our readers, when they are told that these private letters, containing domestic details in some instances, remarks on friends which would not bear to be repeated in others, are published in this paper ordered to be printed by the House of Commons. We could not expect better from a vulgar cockney; but, certainly, we think that Her Majesty's Government should not present, nor the House of Commons order to be printed, documents of such a nature, without suitable supervision. From a dislike to becoming the medium for propagating petty scandal, we refrain from quoting portions of this Report which fully bear out our assertion.

We have had occasion in this article to blame various parties, but are anxious that we should not be misunderstood. We think Lord Morpeth has acted without consideration in this transaction, but we do not, on that account, forget his noble nature, or the services which he has rendered to our country. Dr. Southwood Smith we believe to be sincere and well-meaning, although rather crotchetty, and somewhat enthusiastic.

Let us now briefly pass in review some of the evidence detailed in this precious document—some of the "Letters and Reports received by the Chief Commissioner of Woods and Forests,"—set forward in a parliamentary folio, gravely ordered to be printed by the British senate, and, consequently, paid for by the country. Always premising that we do not deny to this, in common with many other chemical substances, the power of destroying some unpleasant odours, or, to deal more in the phraseology of the Report, *stinks*. But against the disgraceful quackery with which this book abounds,—a quackery not equalled by the most offensive and indecent advertisement,—and the humbug of presenting such a book to the country, we loudly and strongly protest. Let it be remembered, moreover, by every Irish practitioner, who risks, and has for years risked his life, and devoted his time, talents, knowledge, and energies to his country's service, that, while his just and respectful *claim* has been scouted by the authorities, these adventurers have been patronized and fostered, introduced and lauded, and their productions printed and paid for out of the public purse!

We have already alluded to the circumstance that this imposture has been attempted to be bolstered up by the testimony of night-men, dissecting-room porters, ward-men, and other respectable authorities of a similar kind. Some of the experiments made by these intellectual and educated individuals may amuse

our readers, as they have doubtless enlightened the House of Commons. Speaking of the contents of a privy:

"William Fenwick did, as you gentlemen saw, *taste* it, and William Dyer put some over his eyes without injuring them: if it had not gone through your process, it would have *blinded* him!!"

We cannot, however, pursue a strain of levity when we come to examine the part which a physician of repute in London has taken in this transaction. Dr. Southwood Smith, not content with bearing his share in the fooleries of the Report already spoken of, volunteers his individual testimony as to the efficacy of this fluid in obviating contagion among the medical and non-medical attendants on the sick:

"Whatever difficulties," he writes, "your Lordship may have encountered in obtaining the necessary powers to make even any commencement of a system of prevention by the removal of the causes of fever, you have in your own hands, and have had for some months, the sure and certain means of preventing the extension of fever to the immediate attendants on the sick."

And again:

"That, by means of this agent, medical men, who are always in imminent danger, and who so often suffer, might perform their arduous duties with perfect security."

Can it be believed that a nobleman of such acknowledged philanthropy can be, in common with a member of the Royal College of Physicians, in possession of a secret which, if made known, would now stay the pestilence in our land, and that they churlishly withhold it! Will they not afford one drop of this healing liquid to the poor Irish physician?

In the columns of newspapers, in the pages of journals, on the covers of magazines, in the corners of railway guides, placarded on dead walls and bankrupts' shop-windows, dropped into the hat at public meetings, thrust into the hand in streets, and forced upon the attention at every turn, we thought all the modes of puffing quack advertisements, and indecent labels, either in prose or rhyme, had been exhausted. But we find that we were mistaken. A novelty in this department has been introduced by Colonel Calvert; and in the pages of a parliamentary report we see puffs as gross, and language as indelicate, as any that disfigure the lowest newspapers. Let us take a few examples:

PARLIAMENTARY REPORT.

"Mr. Sankey, the resident medical officer of the Fever Hospital, will feel obliged by Mr. Davis sending five gallons of M. Ledoyen's disinfecting liquid."

"Will you have the goodness to send to Mr. Davis, at Colonel Calvert's, Deptford, as we have, unfortunately, lost the address, for five gallons of your disinfecting liquid, for the use of the hospital.

"I have, &c.

"(Signed) F. BURTON, M.D.

"*To M. Ledoyen.*"

"We, the workmen employed by Mr. Radford, nightman, to empty a cesspool of night soil yesterday, at Mr. Eldertons, Brixton, feel it our duty to return you our thanks for your kindness to us, and to express our astonishment at the discovery of the French gentleman. We beg you to accept our best wishes, and may you long live to do good.

(Signed),

"W. FENWICK.

"JOHN DOBSON,

"CHARLES COOKE.

"WILLIAM DYER."

"SIR,—I, Daniel Kearney, attendant of the foul dysentery ward in North Dublin Workhouse Union, declare that, before you came, the stench of the ward was so intolerable that I could scarcely remain in it for a few minutes; but that since you and the French gentleman gave us

QUACK ADVERTISEMENTS.

"I wish to have another box and a pot of the ointment, in case any of my family should require either.

(Signed) "ALDBOROUGH.

"*To Professor Halloway.*"

"SIR,—Send me a 4*s.* 4*d.* canister of your snuff, called 'Grimstone's Eye Snuff;' let it be the same sort which Lord Liverpool received from your house in the Strand.

"Your obedient Servant,

"G. CANNING.

"*To Mr. Grimstone.*"

"When I commenced the use of your pills I was in a most wretched condition; and, to my great delight, in a few days afterwards, there was a considerable change for the better, and by continuing to use them for some weeks I have been perfectly restored to health, to the surprise of all who have witnessed the state to which I had been reduced by the disordered state of the liver and stomach. Would to God that every poor sufferer would avail himself of the same astonishing remedy.

(Signed)

"CHARLES WILSON."

"He had severe hectic fever, the urine depositing large quantities of sediment; constant, distressing cough; no appetite, and the stomach rejecting nearly everything he took, both food and medicine. He began by taking five of your pills night and morning, which were gradu-

your liquid the ward has been completely free from stench; that myself and the patients are much healthier, and there have been no deaths in the ward; and that the air of the ward is now pure and clean.

(Signed),

" Daniel Kearney.

" *Colonel Calvert.*"

" *Madam Steevens's Hospital,*
" *Dublin.*

" Sir,—In compliance with your desire, I have the honour to address you, and feel much pleasure in acquainting you that the patient, M'Dermott, No. 11 ward, is able to be out of bed for the last few days, which I am of opinion is owing chiefly to your instrumentality, as without the application of your invaluable discovery it would not have been in my power to pay that attention which has conduced to his present improved condition; of his ultimate recovery I make no doubt whatever. The discovery will, no doubt, be estimated by society.

" Certified this 15th June, 1847, by me.

" (Signed), Daniel O'Brien(*b*).

" *Colonel Calvert.*"

ally increased to ten, which in a short time had the effect of completely curing the cough, the stomach affections, and restoring the urine to its natural state. His strength and flesh are also restored, and his appetite keen and digestion good.

(Signed),

" Robert Calvert."

" (*From the Right Hon. Lord Elphinstone.*)

" Mr. Eisenberg having asked me for a certificate, after six months' experience of his skill, I have no hesitation in giving it, his treatment having been perfectly successful.

" Elphinstone."

We think it right to put our readers in possession of the mode in which some of the testimonials printed by order of the House of Commons have been obtained, and, at the same time, acquaint our readers with some of Colonel Calvert's proceedings in Dublin. Colonel Calvert states that he received certificates from " Sir William Crampton, Bart., physician; Mr. Carmichael, surgeon; Dr. Frederick Kirkpatrick, M. D., physician to the North Union Workhouse,—and George Brown,

(*a*) Daniel O'Brien is a nurse or ward-man in Dr. Steevens' Hospital. Why did not the medical attendants of the hospital sign the document?

resident apothecary; Sir Henry Marsh, Bart., physician,—and Mr. Cusack, surgeon; and Charles Fleming, M. D." With even the names of some of the foregoing we are not acquainted.

Besides the experiments performed in presence of the surgeons and physicians of hospitals, several of whom refused to bear testimony to the efficacy of his fluid, or to sign the documents laudatory of it placed before them, the gallant Colonel availed himself largely of the extensive experience and profound medical knowledge of the nurses in hospitals, and the pauper patients in Union Workhouses, who supplied him with their testimonials, in return for————————————————————(*a*), in addition to sundry complimentary communications. Daniel Kearney, whose testimonial we have already quoted, is a pauper in the North Union Workhouse, where he holds the situation of ward-man. Without the knowledge of any of the officers of the institution, Colonel Calvert and his secretary procured from this man the document referred to, in which Kearney states that, previous to the use of the disinfecting liquid, he could scarcely remain in the ward for a few minutes, although the fact is, he had actually slept in it for months previously. Daniel Kearney is, however, communicative; and the Colonel wishes, it would appear, to cultivate his acquaintance, as we learn from the following document, addressed to him by the Colonel after his departure from Ireland. In a matter of this kind no apology is necessary for its insertion. We procured it by the same means, we dare say, that Colonel Calvert obtained its answer, and the certificate.

20*th June*, 1847.

"KEARNEY,—I have been anxiously waiting, expecting a letter from you every day, letting me know how your sick men go on, and if my old friend Keough (I do not know how to spell his name) is getting better. Does he take his snuff? Are the young men out of the ward? Let me know all about it. *Do you make use of the liquid?* Is the ward quite clean, and clear of smell? Remember me to my old friend, and all the others. Ask the old man if he is nearly ready to dance the jig, as I intend coming to Ireland on purpose. I render you great justice that nobody can be more attentive, and do more justice to the sick, than you do; and if the liquid did any good, it was owing to your always taking care to keep it constantly used, and I attribute all the success of it to you. I shall be at all times willing and wishing to do you any good I can. Write a certi-

(*a*) Our readers will perceive, at p. 165, that we have parliamentary precedent for this blank.

ficate of the health of the men since I left; and *write me two or three lines, on another piece of paper, letting me know how you all are*(*a*).

"Believe me your well-wisher,

"A. C. CALVERT.

"*Dover, Kent, England.*"

The reply to the foregoing is too absurd to occupy our pages with.

There are but few other circumstances with which we shall weary our readers. Colonel Calvert has communicated with the Marquis of Downshire, and after what fashion we may glean from the following extracts contained in a letter from that nobleman to him, dated the 22nd of June last:

"I sent your message to him as you gave it to me, coupling Lord Morpeth's permission with your own, in which you kindly said you would be happy to give some of the stuff for the benefit of the poor sick people in Belfast. I now write to you to ask you to be so kind as to send some by as early a period as you conveniently can, and to write your own directions for its use, and *your own change of diet*, which appears to have so wonderfully brought round the sick under your charge in Dublin and Drogheda."

What was the nature of the dietary alluded to in the foregoing paragraph? Who placed the sick in Dublin or Drogheda under the charge of Colonel Calvert?

Colonel Calvert has brought forward certain letters from a few medical men in Dublin, commendatory of M. Ledoyen's fluid. We are in a condition to assert that some of these letters were written by himself, and proffered to the medical officers of charities, some of whom signed them, and others refused. We now ask why letters written in a less laudatory strain than those contained in the document before us were not inserted: why was not the following letter, written by Dr. Monahan, a colleague of Dr. Kirkpatrick's, and *received* by Colonel Calvert, and which we have Dr. Monahan's permission to insert, published, as well as those of other officers of the same institution?

"71, *Marlborough-street, June* 4, 1847.

"SIR,—I beg leave to say, that the fluid invented by Monsieur Ledoyen has certainly the property of modifying nauseous odours, but am not at present prepared to say that it is superior to several other chemical compounds recommended for that purpose. I shall test the qualities of all such compounds, and give you the result of

(*b*) The only liberties we have taken with this letter refer to the punctuation, and the use of italics in the last sentence.

my experiments in the course of twenty or thirty days, by your favouring me with your address.

"I have the honour to be, your obedient Servant,
"THOMAS LEWIS MONAHAN,
"*Physician to the North Dublin Union.*"

Besides the private letter of Daniel Kearney, given in page 44 of the Report, other communications, of an entirely private nature, not intended by their authors, we are warranted in stating, to be made public, are, as we have already stated, printed by order of the House of Commons;—for example, that of Dr. Kirkpatrick, of the 14th of June, and that of Dr. Eades, of the 23rd. A few specimens of domestic history and private feeling from these will suffice to shew their character:

"In your own ward all the poor fellows remain as you left them: your old friend, Keough, is alive and gaining ground, though he misses your cheering countenance; I do not, however, let him want a pinch to comfort his nose with. The country looks beautiful, and the prospect of a plentiful harvest most cheering; the prices, however, still keep up, and there is a continuance of fever. I have attended myself 350 cases of typhus in the last three months; an occupation I would gladly exchange for that of budding roses in your good company in Normandy. Have you a vacancy for an assistant gardener at present?"

And, again:

"Matters go on in our hospitals as of old, the only change in our inquiries being an occasional question as to 'what has become of the disinfecting fluid; has it died a natural death; and what in the world could a colonel have to do with it? or we enjoy a laugh as we retail one of your merry jeu de mots.'

"I am struggling on as usual; up every morning at five, and in Dawson-street with my class at six; *pour reusir, il faut travailler.*"

Not certain of the effect which the Report might produce, Messrs. Calvert and Co. have induced the Government to publish a Supplement, consisting of letters from Mr. Carmichael and Dr. Macdonnell of Dublin, on the "*anti-bromic*" virtues of the disinfecting fluid, and also a letter from Colonel Calvert to the Secretary of State for the Home Department, in which he states that Mr. Phillips has communicated to him Sir G. Grey's "satisfaction on reading the various papers which have been presented by Her Majesty's command, and ordered to be printed by order of the House of Commons."

We have now finished our disgusting task. We hope it will never again be our duty to hold up to public reprobation another such example of ignorance and quackery patronized by power.

The Physiological Anatomy and Physiology of Man. By R. B. Todd, M.D., and W. Bowman, F.R.S. Part III. London, Parker. 1847. 8vo.

The third part of Todd and Bowman's "Physiological Anatomy of Man" fully maintains the high character earned by the early Numbers of this valuable work.

In the present Part some of the most difficult subjects in anatomy and physiology are handled in the most masterly manner. Its authors have stated that this work was intended "for the use of the student and practitioner in medicine and surgery;" and we can recommend it to both, confident that it is the most perfect work of its kind, containing much original matter, and also furnishing the reader with the actual state of the science of physiology at the present day, enlarged and enriched as it has been of late years by the labours of Müller, Wagner, Marshall Hall, Carpenter, Volkmann, and others.

The peculiar excellence of this work seems to consist in the completeness of its several departments, and in proof of this we may appeal to the present Part, where, amongst other subjects, the anatomy of the organs of sense is described with a fidelity and plainness only equalled by the complete, yet concise account of their functions. It would be premature to enter at length into a consideration of the subjects treated of in a work only in part published.

The contents of Part III. are:

The Anatomy of the Organs, and Physiology of the Senses of Smell, Vision, and Hearing; then follows the physiological anatomy of the Encephalic Nerves, exclusively motor, of the compound Encephalic Nerves; of the Sympathetic Nerve; and lastly the subject of the Physiology of Digestion is entered on. We have also to remark, that a profusion of woodcuts, of great beauty of execution, illustrate every portion of the work. The anatomy of the eye-ball is described with the greatest perspicuity; we find in it several details which to many of our readers will seem novel; as, for example, the connexion existing between the iris and cornea; the existence in the *human* subject of a ciliary muscle; the mode of connexion, "*by a transparent layer of cells*," of the retina with the hyaloid membrane, and of the lens with its capsule.

The cornea is first described as consisting of five coats or layers. These are, from before backwards:

1. The conjunctival layer of epithelium; 2. The anterior elastic lamina; 3. The cornea proper; 4. The posterior elastic

lamina; 5. The epithelium of the aqueous humour, or posterior epithelium.

The posterior elastic lamina has been long known as a separate element in the structure of the cornea; but we know of no anatomist who has described the *anterior* elastic layer spoken of by our authors, and described thus:

"This" (the anterior elastic lamina) "is a transparent homogeneous lamina, co-extensive with the front of the cornea, and forming the anterior boundary of the cornea proper. It is a peculiar tissue, the office of which seems to be that of maintaining the exact curvature of the front of the cornea. . . . The anterior elastic lamina sustains the conjunctival epithelium which covers the cornea, and is very probably the representative of the basement membrane of the mucous system, as it occupies the corresponding position in regard to the epithelium. Its thickness is about $\frac{1}{2000}$ of an inch."

The connexion of the iris with the cornea is subsequently described. We may observe, that for some time we have been aware that such a relation existed between these two structures (although hitherto not described), and we have often seen it, and exhibited to others. Of its exact nature, however, we were ignorant until we met with it in the work of Messrs. Todd and Bowman. The following is their description of it:

"The iris forms a vertical curtain stretched in the aqueous humour before the lens, and perforated for the transmission of light. It is attached all round at the junction of the sclerotic and the cornea, *so near indeed to the latter* that its anterior surface becomes continuous in the following manner with the posterior elastic lamina: this lamina, near its border, begins to send off from its anterior surface, or that towards the laminated cornea, a net-work of elastic fibres, which stretch towards the border, becoming thicker as they advance, until at length the entire thickness of the lamina is expended by being converted into them. These fibres then bend *backwards from* the whole circumference of *the cornea to the* circumference of the front of the *iris*, and are there implanted, passing in this course across the rim of the anterior chamber and through the aqueous humour."

The existence of the ciliary muscle in man (it has been shewn to exist in birds by Sir Philip Crampton) must be regarded as an important discovery, bearing as it does so directly on that *vexata questio*, the means by which the optical mechanism of the eye is adapted to distinct vision at varying distances. The description of this structure is well worthy of attention.

The anatomy of the internal ear has hitherto engaged but

little *general* attention. Students have been accustomed to regard as hopeless any attempt to understand the intricacies of an organ, the compartments of which are so mysteriously named, and the uses of which individually, are so little understood. The paucity of treatises in the English language on the subject has long been an almost sufficient excuse for such ignorance, but no student, with Todd and Bowman's Physiological Anatomy before him, can any longer use this plea. In this work the anatomy of this most exquisite fabric is described with admirable plainness, and so abundantly illustrated as to remove every difficulty from the subject.

We have only space to notice the discovery by the authors of the cochlearis muscle, an announcement which is made with the most commendable modesty. The following is the account of this newly discovered structure:

"*Of the Cochlearis Muscle.*—At its outer or convex margin, the membraneous zone is connected to the outer wall by a semi-transparent structure. This glutinous-looking tissue was observed by Breschet, and is indeed obvious on opening the cochlea, but we are not aware of any one having hinted at what we regard to be its real nature."

That an analogy exists between this structure and the ciliary muscle of the eye, will at once suggest itself to the reader, and accordingly we find that, like it, this cochlear muscle is a mass "evidently fibrous, loaded with nuclei, and filled with capillaries, following the direction of its fibres." In fact its fibres are of the unstriped kind. The action of this muscle "must be that of making tense the membraneous portion of the lamina spiralis, and so, perhaps, of adjusting it to the modifications of sound." This is an interesting addition to the many analogies which have been drawn between the eye and the ear, and particularly dwelt on by Breschet and Wharton Jones, who have shewn how the perilymph may be compared to the aqueous and the endolymph to the vitreous humours; the spiral lamina of the cochlea to the iris; the helicotrema to the pupil; the osseous labyrinth to the sclerotic, &c., &c. To these may now be added the resemblance already alluded to, between the cochlearis muscle of Todd and Bowman, and the ciliary muscle of Porterfield and Mr. Clay Wallace.

We cannot conclude without strongly recommending the present work to all classes of our readers, recognising talent and depth of research in every page, and believing, as we do, that the diffusion of such knowledge will certainly tend to elevate the sciences of medicine and surgery.

Lectures on some of the more important Points in Surgery. By G. J. GUTHRIE, F. R. S. London, Churchill. 1847.

PART I.—*On Wounds and Injuries of Arteries of the Human Body, with the Treatment and Operations required for their Cure.* pp. 97.

PART II.—*On Wounds and Injuries of the Abdomen and the Pelvis.* pp. 73.

THESE lectures contain a confirmation of the doctrines published by Mr. Guthrie in 1830, by the addition of such facts as have since occurred in his own practice or that of others; and after a very careful perusal we feel bound to state that we consider them most valuable, and likely to be of the greatest service to the young surgeon in fixing on a firm basis his practice, when the urgency of the cases (wounds of large arteries) leaves him no time for hesitation.

Mr. Guthrie believes that the vast experience which surgeons acquired during the last war, in wounds of arteries, of the chest, abdomen, &c., had a considerable influence in modifying some, and changing other of the opinions which prevailed; and consequently in producing a revolution in the treatment of these important injuries. The civil surgeon, even when attached to a large hospital, certainly meets with such cases so comparatively rarely, and at such long intervals, that it is hard for him, from his limited field, to reap such a harvest of facts as would enable him to arrive at well-founded opinions, and he can never compete with the army surgeon, whose large number of cases of severe injuries, accumulated together at the same time, enables him to form conclusions from extended observation and comparison. It is with such qualifications that Mr. Guthrie presents his opinions and well-matured experience on some of the most important points in surgery.

He is somewhat peculiar in his views of the means nature employs in stopping bleeding from a divided artery of moderate dimensions, attributing less to the retraction of the artery within its sheath, the effusion and coagulation of the blood in it, and the formation of a clot in the end of the vessel, and more to the contraction of the very end of the artery itself. Both the cases, however, that he gives, are wounds of that class in which one would expect this contraction to be greatest and most likely to be met with: the first, where the arm was carried away by the bursting of a shell; the second, where a cannon shot took the leg off. The arteries must have been

stretched to the utmost before giving way, and would, therefore, present the utmost degree of contraction, very different, we would say, from the extremity of a clean cut vessel, where we should not like to trust much the arrest of the hæmorrhage to the contraction of the end of the artery alone.

When an artery is cut across, the upper end contracts considerably, and after a time a pyramidal clot closes the end of the vessel preparatory to the effusion of lymph, by which it is permanently closed: this process is well known. But in the lower end the contraction is by no means so extensive, the retraction is less, and the internal coagulum not so perfect; the consequence is that secondary hæmorrhage is, according to Mr. Guthrie, much more likely to occur from the lower end, the difference being that the blood is of a dark colour, and flows or wells out in a continuous stream, and not with arterial impulse.

Mr. Guthrie gives the case of a sergeant whose femoral artery was divided by a musket ball. There was no secondary hæmorrhage till the tenth day. Mr. Dease tied the artery in the upper part of its course; Mr. Guthrie, who disapproved of this proceeding, prophesied a recurrence of the bleeding, which actually took place on the twenty-seventh day from the wound, and the seventeenth day after the application of the ligature on the femoral above the wound. The limb was amputated and the man died.

"On examination the artery was found to have been divided exactly where it passes between the tendinous expansion of the triceps and the bone. The upper portion of the artery thus cut across was closed. A probe introduced into it from above would not come out at the face of the wound, although the impulse given to this part on moving it was observable in the middle of a large, yellowish-green spot, which I had previously declared to be the situation of the extremity of the artery, which had contracted behind this, in the shape of a claret bottle, for about an inch, having within it a small coagulum. The lower end of the artery, from which the hæmorrhage had taken place, was marked by a spot of a similar character; but on passing a probe upwards from the popliteal space, it came out at a very small hole in the extremity of the artery, in the centre of the yellow spots, the canal of the artery not being contracted and diminished, but only apparently closed by a layer of the yellowish green matter laid over it, and adhering to its circumference."

He sums up his conclusions thus:

"1. That an artery as large as the femoral is capable, when divided, of taking on certain processes which will cause a suppression

of hæmorrhage from its upper end, and which suppression is usually permanent.

" 2. That the bleeding from the lower end of the same vessel is less certainly and less permanently restrained, and not exactly by similar processes, &c.

" 3. That this bleeding from the lower end of the vessel, which is more or less of a venous colour, and issues in a continuous stream, may be restrained by compression properly made on, and in the course of the lower part of the wounded artery; but that in no instance should recourse be had to a ligature on a distant part of the artery above the seat of the injury, until every other possible effort to arrest the hæmorrhage has failed."

This fact of the greater liability of the lower portion of an artery to bleed being clearly established, the practice naturally follows of applying a ligature, in cases where a ligature is demanded, below as well as above the wound. When an artery of the larger class is either half cut or half torn through, the vessel, unable to contract or retract, may go on bleeding till the patient is destroyed, to prevent which the wound should be sufficiently enlarged, so as to expose the injury of the artery, and a ligature applied above and below it. When an artery is wounded at some depth, and the external opening is small, blood, besides issuing from the opening, flows into the cellular tissue, into which it is sent with more or less force according to the size of the artery. This blood may remain fluid or it may coagulate; if the first, the fluid blood should be evacuated, and a compress and bandage applied, for fluid blood readily runs into a troublesome suppuration. When the blood, " partly fluid and partly coagulated, continues to enlarge and pulsate, the extension of the mischief should be arrested by opening the swelling, and securing the artery by ligature."

" When an artery is wounded, and the external opening in the integuments heals, so as to prevent the blood from issuing through it, a traumatic, spurious, circumscribed, or diffused aneurism is said to form, according to the facility which is offered by the structure of the parts for the confinement or diffusion of the extravasated blood. A traumatic aneurismal tumour of this nature differs essentially from aneurism which has taken place as a consequence of disease, and not of direct injury. If a spurious aneurism forms from disease, the artery is in general unsound for some distance above and below the tumour. In the aneurismal tumour from a wound the artery is perfectly sound, except as far as concerns the seat of the injury. There is, then, not only a great and essential difference betwen these two kinds of aneurism as regards their nature, but also with respect to their collateral circulation, and the operation to be performed for their cure: and the surgeon may not overlook these facts."

Mr. Guthrie gives a case of Mr. Keate's, where a boy fourteen years old wounded the femoral with a pen-knife: the wound healed, but the limb swelled, and the surgeon who first saw him thought it an abscess. Mr. Keate says:

"I found the limb very much enlarged from the upper part to the knee, and with that peculiar discolouration which convinced me that blood was under the integuments, and I refused to open it where the abscess was supposed to be pointing until I had everything ready for the operation of securing an artery. There was no pulsation in it when I saw it, and I was assured there had been none. When all was ready I introduced the point of a lancet, and after a clot of blood had been forced out, a jet of arterial blood flew across the room. The hæmorrhage was arrested by pressure below Poupart's ligament whilst I enlarged the integuments. Two wash-hand basins were filled with coagula, and I put my finger on a large opening in the artery, under which two ligatures were placed by means of an eye-probe, and the artery was divided between them. The muscles had been cleanly dissected, and the cavity extended from the fork internally, and trochanter externally, to the knee. There was much less suppuration than I expected. The ligatures were detached in the usual time, and the patient entirely recovered."

When the blood is coagulated, and there is no external wound communicating with it, the artery may be tied above the seat of the injury; but when the blood effused is partly fluid, suppuration is most likely to follow, and the hæmorrhage be renewed; this case of Mr. Keate's offers a favourable instance of the proper treatment. A great matter is to operate early, while the tumour is still small, and before extensive extravasation has taken place, for then the difficulties of the operation are very considerably increased. The following observations are too important to be abbreviated:

"In my work on Injuries of Arteries, and in this place, treating of the collateral circulation, I have asked the question:—If the femoral artery be punctured near the groin, and a diffused aneurism form in a few days, extending up to Poupart's ligament, can the operation of placing a ligature on the external iliac be performed on the same principle, or with the same hope of success, as if the case had been one of true aneurism of several weeks', or months', formation? The answer is in the negative. The Hunterian theory of aneurism is not applicable to the case. The surgeon who placed a ligature on the external iliac, under such circumstances, would probably lose his patient from mortification, because the collateral branches would not yet have had time to enlarge. I may now add, if he should escape this danger, there is the risk of inflammation of the peritonæum, which has occurred to myself and to several others, and of the formation of matter behind it; or the wounds, if not closed, may bleed, or the diffused and spurious aneurism may en-

large from blood flowing into it from both ends of the artery, which are not partially closed, as in true aneurism; or it may suppurate and burst, and require, in each case, another operation in order to suppress the bleeding. It is an operation I shall shew you cannot be supported on principle, which has not succeeded in practice, and which will be resorted to hereafter only as a last resource, when those means I have pointed out have unfortunately failed, and when, in all probability, it will fail also.

"The operation for placing a ligature on the subclavian artery, above the clavicle, in a case of wound of the axillary artery in the arm-pit, is equally inadmissible with that for applying a ligature to the external iliac for a wound of the artery in the groin, and ought alike to be abandoned. These are grave questions, which interest the public more than the profession. They only indirectly effect the anatomist and the surgeon, who does one operation with the same degree of knowledge and ability as the other; to the public, to the sufferer, they are questions of life and death. By that operation which, during the war in the Peninsula, was found to be efficient, the sufferer has a fair hope of recovery; after the Hunterian operation he may live through accidental circumstances only, which may be prayed for, but which can never be honestly and fairly expected: they should never, therefore, be trusted, for nothing which is dependent on chance or accident can or ought to become a principle in surgery. The Hunterian theory of the cure of aneurism is totally and utterly inapplicable to the treatment of wounded arteries, accompanied by an open wound, however small or distant. It is always doubtful, and frequently dangerous and destructive, even when the external wound has healed. A wounded artery should always be secured at the part where it is injured; and the greater number of those who suffer from such accidents, and are not so treated, will, in all probability, be lost, unless surgery can come to their assistance by ulterior and more painful operations."

We wish we could enter into some detail of the many valuable cases related by Mr. Guthrie of the occasional occurrence of mortification after a wound of the femoral artery, and its almost inevitable supervention when both vein and artery are wounded and obstructed. It behoves the surgeon to look out for the earliest signs of mortification, and to proceed forthwith to perform amputation above the wound; it is not a case to wait for a line of demarcation, for if this is done the patient becomes so exhausted as to sink under the shock of the operation.

Another very important opinion advanced is, that the surgeon, in seeking for the wounded vessel, should not hesitate freely to divide muscular substance; the pectoralis when the axillary, the glutæus when the large deep-seated arteries of the

buttock, and the glutæus and solæus muscles when the posterior tibial are wounded.

John Bell, in commenting on a case of Deschamps, says: "Why should he have stopped at the border of the pectoral muscle; or what is this pectoral muscle that it should be respected more than the other muscles of the body?" This principle of not allowing muscles to confine his incisions, Mr. Guthrie fully supports, and with a mass of evidence and reasoning very hard to resist. The main point of his work is to prove that, in every case of wounded artery of a certain calibre and amount of hæmorrhage, it is best to cut down to the artery (undeterred by the fear of cutting through muscle), and pass a ligature above and below the wound. This is maintained by a number of facts, not all his own, but drawn from different sources, down to the present time. And though instances may be adduced, and are very fairly brought forward, where a ligature placed on an artery above the wound, and at a distance from it (the subclavian when the axillary was wounded, the brachial when the ulnar, &c.), have succeeded, yet the best rule is undoubtedly what Mr. Guthrie recommends; and the young army surgeon, indeed every surgeon, must derive the greatest advantage from a careful study of this book.

We exceedingly regret that, from the space we have allotted to the consideration of the wounds of arteries, we have left ourselves scarcely any for that of the subject of the second treatise, which is full of most interesting matter, and abounds in facts of the utmost value. Contusions of the abdomen, stabs, large sabre wounds, gunshot wounds, their treatment, and that of protruded intestines, omentum, &c., are treated with an experienced hand; as well as hæmorrhage into the abdominal cavity, mortification of a portion of intestine, and artificial anus. We can only present our readers with Mr. Guthrie's concluding summary, in aphorisms partly abbreviated and partly in his own words.

1. "Severe blows on the abdomen give rise to the absorption of the muscular structure, and the formation, in many instances, of ventral hernia; which may, in some measure, be prevented during the treatment, by quietude, by the local abstraction of blood, and by the early use of retaining bandages."

2. Abscesses in the muscular wall of the abdomen should be opened early.

3. Blows on the abdomen frequently cause rupture of the liver or spleen, when death follows from hæmorrhage. When

the hollow viscera are ruptured, death ensues from inflammation.

4. "Incised wounds of the wall of the abdomen, of any extent, rarely unite so perfectly (except in the linea alba) as not to give rise to ventral protrusion of a greater or less extent."

5. As the muscular parts unite in the first instance, after being divided, sutures should never be introduced into these structures.

6. Their apposition should be secured by positive sutures through the integuments only, adhesive plaster, compress, and bandage.

7. The only case where the suture may be passed through the whole wall of the abdomen is when the wound is very large, and the protrusion of the intestines otherwise ineffectual.

8 Enemata are preferable to purgatives.

9. "The omentum, when protruded, is to be returned, by enlarging the wound through its aponeurotic parts, if necessary, but not through the peritonæum, in preference to allowing it to remain protruded, or to be cut off."

10, 11, 12, 13, 14. If the intestine is only punctured, it requires no immediate treatment; but if there is a cut in it exceeding the third of an inch, it should be sewn up and reduced. The patient should lean to the affected side, to promote adhesion; the greatest quiet should be observed, and the diet be restricted. If the belly swells, and extravasated matters require to be let out, the sutures of the wound may be cut, or even, when the wound is small, it may be carefully enlarged. A wound should be kept open until it ceases to bleed, or the bleeding vessel, if possible, secured; if that is not possible, it must be closed, and the result awaited.

15. "A gunshot wound, penetrating the cavity, can never unite, and must suppurate. If a wounded intestine can be seen or felt, its torn edges may be cut off, and the clean surfaces united by sutures. If the wound can neither be seen nor felt, it will be sufficient for the moment to provide for the free discharge of any extravasated or effused matters which may require removal."

16, 17, 18, 19, 20. A wound in the abdomen should never be unnecessarily enlarged. When balls lodge in the bones of the pelvis, they should, when it can be safely done, be removed. When the bladder is wounded, a gum-elastic catheter should be kept in the bladder; but if the irritation from it is too great, an opening should be made into the bladder from the perinæum. All wounds of the abdomen should be treated on a strictly antiphlogistic plan.

Hand-book of Human Anatomy, general, special, and topographical. Translated from the German of Dr. A. von Behr, by J. Birkett, F.R.C.S.E. London, 1846. 16mo. pp. 440.

The present volume is one of a series in course of publication by German authors. It contains a large amount of anatomical information, but, we fear, not in a form to suit the taste or genius of the British student.

The first chapter gives a general outline of the constituents of the body in a condensed form; a subject on which most of our text-books on anatomy are deficient; they begin at once to describe bones and ligaments, muscles, nerves, and arteries: things, of the structure and composition of which the young student knows literally nothing. We are met, *in limine*, however, with what we must confess we do not very well understand, and certainly do not very much admire, namely, two definitions, one of anatomy, and the other of general anatomy. We know not whether it may be the result of early prejudice, or that the reminiscences of school-boy days and castigations, —severe, but well-merited withal,—have spoiled our taste, and impaired our judgment, but so it is, that we entertain a strong antipathy to definitions and propositions in almost every form. They seem to us to darken counsel by a multitude of words, and are too often used as a cloak, dark and impenetrable, to hide our ignorance. The one before us, on general anatomy, runs thus:

> "The animal body consists of solid and fluid substances, which, permeating one another, may, by chemical means, be resolved into proximate and ultimate elements, and supply the material base to the forms of the elementary constituents and tissues."

Now, we ask, where is the student that could unravel this, to us, at least, abstruse and unintelligible sentence? The first part of it, if correct, is plain enough; but do the solids of the body permeate the fluids; and is it while this mutual interchange is going on that the chemical agents are resolving them into proximate elements and ultimate elements? What to make of the latter clause in this definition we are wholly at a loss; for if the solids and fluids be already resolved, we know not where to look for the forms of the elementary constituents and tissues, the material base of which is to be supplied from the aforesaid proximate and ultimate elements. Once fairly over this asses' bridge, however, we meet a large amount of useful information in a condensed form in this chapter. The

writer first gives the different bases found in the body; then mentions those found in a pure state, as oxygen in the blood, and nitrogen in the intestinal canal; after which he enumerates the binary compounds, water, carbonic acid, phosphoric salts, chlorine, with their compounds, and sulphates; then come the ternary and quaternary compounds, generally containing nitrogen, upon which depends the rapidity with which they pass into a state of decomposition. The nitrogenized substances, proteine, albumen, pepsin, &c., come next under consideration, and after these the non-nitrogenized materials, as sugar of milk, lactic acid, and fats. Under the head of elementary parts he gives a slight epitome of the cell structure or theory now so generally received, and first discovered by Scheeraw in 1838; after which he takes up individual tissues, as the cuticle or epithelium, nails, rete mucosum, or, as he calls it, granular pigment, and hairs. The uniting tissues, such as the cellular, the ligamentous, fibrous, and serous tissues, are next brought under observation. The nutritious juices, as chyle and blood, and glandular structures, with their component parts, are also explained.

There are a few things in this chapter which we do not fully assent to: for instance, we do not incline to the opinion that the rete Malpighii is nothing more or less than the inner layer of the cuticle with the black pigment adhering to it; indeed we are opposed to the opinion that the cuticle consists of two layers, for although we may succeed, by boiling, in separating it into two parts, where it is very thick, yet we consider this subdivision as somewhat similar to that which we can make, *ad infinitum*, over the sac of an old inguinal hernia, where there is a considerable deposition of adipose cellular tissue. By long exposure to the air bones also become laminated, but every body knows that such is not their natural structure; and we would further say that the rete mucosum is a structure independent of, and easily separated from the cuticle. The division of all glandular structures into membraneous and vascular we decidedly object to as unscientific and incongruous. Amongst the membraneous, or glands of mucous membranes, he classes mucus follicles, cryptæ, agminatæ, solitariæ, conglomerate, salivary, and, in fact, every gland in the body, the lymphatics excepted, which he places in his second class, or that of vascular glands, in which he includes the thymus and thyroid bodies, the spleen and suprarenal capsules. Now we do not admit these latter to be glands, inasmuch as they are not provided with excretory ducts, nor have we any evidence of a secretion taking place in them; we might as well say of the spleen, for instance, with some of the old anatomists, that it was a warming-pan for the stomach,

or that it was the seat of laughter; there is as much evidence for the one theory as the other. Upon the whole, however, we consider this a useful and instructive chapter to the student; although the shortest, we think it one of the best in the work. But we do not imply that its worth is, in any way, enhanced by its brevity; on the contrary, we should say that the work would be improved by the subjects in it being more fully treated of.

This introductory portion disposed of, we find the work divided into six parts. The first, on osteology, gives a concise description of the whole skeleton, including texture, development, and conjunction of bones; the foramina, with all the parts transmitted through them, the numerous eminences and depressions, with the soft parts attached to them, are also minutely and accurately given. The classification of joints, or, as he calls it, the conjunction of bones, is arranged into two classes, moveable and immoveable; in the first he omits the mode of junction termed schyndelesis, or that where one bone is grooved in between two plates of another, while he unnecessarily gives three varieties of the serrated suture. In the second division, the moveable articulations, we find the carpal and tarsal joints mentioned as examples of amphiarthrosis, and in the angular joints the distinction between perfect and imperfect, with which we are so familiar, is entirely omitted. In our juvenile days, when we first began to attend lectures, we remember being puzzled by the announcement that the bones of the head were nothing more or less than vertebræ expanded and moulded into their present shape; but here we have it propounded that "the skeleton is but a system of vertebræ, and that all the bones must be regarded as more or less perfect, or metamorphosed vertebræ." We meet with a large amount of anatomical information in this division of the work, but we think it would have been more intelligible, more simple, and consequently more useful to the student, if many of the long, hard, jaw-breaking Latin names had been left out, and plain English given instead.

Under the head Arthrologia, we find the ligaments and joints described: the classification, as before mentioned, we do not approve of; the origin, insertion, and direction of the ligaments, however, is accurately given, and easily understood; but there are some inaccuracies we cannot omit mentioning: for instance, the motion commonly termed circumduction is not given among those belonging to the spine, or shoulder joint; the acromio-clavicular articulation, and that of the carpal bones, is brought under the head of amphiarthrosis; the wrist-joint, or

that between the radius and ulna, on the one part, and the first row of carpal bones on the other, is called a free ball and socket joint; and the articulation between the first and second row of carpal bones is called a ginglymus. We do not allow that the posterior crucial ligament of the knee-joint slackens in extension and stretches in flexion; we believe that both the crucial ligaments are put upon the stretch in extension, and relaxed in flexion, thereby permitting a slight amount of lateral motion in the flexed position. And lastly, we do not admit that the superior tibio-fibular articulation is immoveable. In this part of the work we again meet too many long, hard, and useless Latin names; of this we give a single example; for instance, the moderators, or cheek ligaments, connecting the second vertebra to the occipital bone, are thus designated: "*Lig. lateralia proc. dentiformis s. alaria mancharti.*"

We next come to the subject of Myologia, or the Muscular System. It begins with a description of the structure, the physical and physiological characters of the muscles, with their general classification, after which individual muscles are taken up and described, but, we fear, not in a form to suit the dissecting room, or benefit the young student. The author presupposes the possession of a larger amount of information in his readers than he will generally find among students; we therefore think that this part of the work is not sufficiently clear in detail to benefit those for whom it is professedly intended.

In the next division of the work, under the head Splanchnologia, or Anatomy of the Viscera, we have the whole of the alimentary canal, from mouth to anus, the teeth included (would they not have been more at home among the bones?); then the appendages, as he calls them,—the liver, spleen, and pancreas,—are described; and after these the organs of respiration, with the genito-urinaries, male and female, all included in one chapter, and disposed of in some six pages. We think those subjects deserving of more space and attention. This brings us to the fifth division of the work, which treats of the Senses,—*Organa Sensoria.* The eye, the ear, and the nose are successively described, but taste or touch are not even alluded to as belonging to this or any other department of the work.

Angiologia, or the Vascular System, is next taken up, and here we are somewhat surprised by the announcement that "the parietes of the vessels consist of six membraneous layers, which are not, however, always present at the same time in every vessel." The elastic, or what in this country we call the middle coat, he makes the fifth, and states that it is only found in the larger

arteries and *veins;* while, in the next page, when more particularly describing the veins, he says: "These walls are thinner and more lax, and when the vessel is empty they fall together, as the elastic coat is entirely wanting in them." Surely there must be a typographical error here; neither author nor translator could give statements so contradictory of each other. Passing over such trifling mistakes, however, the origin, course, and relative anatomy of the arteries are faithfully given.

The subject of the nerves, Neurologia, including brain and spinal marrow, now comes under observation, and may be said to complete the work; at least, with their description terminates the special anatomy. This is an interesting chapter, and well worthy a perusal, as the parts are intimately gone into, while the dry, descriptive detail is relieved by many interesting and important physiological facts.

The whole work is wound up with a kind of appendix, or chapter of accidents, giving a little of everything under the somewhat novel name of Topographical Anatomy, or what, in plain terms, we would call regional anatomy. On this we shall only remark, that it supplies some deficiencies in other parts of the work, and that is a mode of teaching anatomy to which we are very partial, as we consider it highly instructive, and but too much neglected.

To the advanced student, to those engaged in preparing young men for examination, and to lecturers on anatomy, deficient in memory, and requiring to absorb, or take up in a few minutes what will occupy them an hour in describing, we can recommend this work with confidence; but we do not think it calculated for the junior student, nor at all likely to take the place of our ordinary dissecting books. If the numerous and, as it appears to us, useless Latin names, occupying nearly a fourth of the work, had been omitted, it would have been less perplexing to the beginner, and certainly more portable as a hand-book to all wishing to use it as such.

On Tumours of the Uterus and its Appendages. By Thomas S. Lee, M. R. C. S. E. London, Churchill. 1847. 8vo. pp. 274.

The volume before us obtained the Jacksonian Prize for 1844, which is a strong testimony to its merits, and we think that the voice of the profession will add that it deserved it. To a great extent the information it contains has been obtained from living authorities or from the preparations in the different museums; to a more moderate extent the author has drawn

upon the recorded experience of others; and he has thrown the whole together with a good deal of judgment. We do not mean to say, that the various and complicated problems connected with tumours of the uterus and its appendages have been solved, nor could this have been expected of a young man when so many of longer experience have failed; but on some of them additional light has been thrown, and towards the solution of others valuable contributions have been collected.

The essay embraces tumours of the uterus of various kinds, of the ovary, and of the vagina, and external organs. We shall glance at some of them.

The description and history of fibrous tumors of the uterus is good, but we need not enter upon it at present. As to their situation the author observes:

"The most usual position for those tumours is the submucous, viz., those projecting into the cavity of the womb; and the pedicles of these are generally situated just below the openings of the Fallopian tubes. The next position in which they are the most abundant is the posterior wall and fundus of the uterus; they are very rarely situated in the anterior wall, and still more rarely in the cervix uteri. These observations were obtained by the examination of seventy-four preparations in the Museums of the Royal College of Surgeons, University College, Bartholomew's, Guy's, and King's College."—p. 3.

As is well known, the situation of these tumours determines their future progress in many cases. When sufficiently near either surface, their outer covering becomes gradually thinned until it offers no resistance, and the tumour may be detached; or, the envelope being more tenacious, it may retain its connexion with the tumour, which will then become pendulous, and when internal it is called a polypus. Opinions vary as to any increase taking place in the uterine tissue surrounding an imbedded tumour. Mr. Lee remarks:

"From the difference of opinion that exists on this point, I have examined many preparations to endeavour to ascertain the truth. I find that the increase of uterine tissue is not always constant. In Guy's Hospital Museum there are several preparations, in some of which this increase of uterine substance is very great, while in others there is a thinning of the fibre on the tumour. In Dr. Reid's case the walls were an inch thick, and in the University College Museum there is an extremely large tumour, surrounded by very thin uterine walls. When the tumour projects into the cavity of the uterus, its walls are generally increased in thickness, but when it is imbedded in its substance, the uterine tissue is most frequently lessened."—p. 5.

When a fibrous tumour is cut open,

"It is of a pale ash colour, intersected and interlaced by shining

white lines, producing interspaces, which are filled with a dirty white matter. * * * * * Some tumours, when cut into, present a number of layers upon a central nucleus, with such regularity as to lead to the supposition that they had attained their bulk from actual deposit."

"I have examined many portions of these tumours from various situations of the uterus, by the microscope, and I find that they invariably present a cellulo-fibrous appearance. From a part of the central tumour which accompanied the essay, three different degrees of the same object were observed: in one portion the cellular tissue predominated; in another the fibrous tissue, combined with cells; and in a third, the true looped fibrous tissue, radiating from a centre and diverging into a form resembling the star-fish. No other cell, except the simple nucleated cell, could be distinguished. Dr. Oldham states that the anatomical elements of the fibrous growth are a clear, unstriped fibre, closely packed, and interspersed, in some instances, with closely packed crystalline grains (the existence of which has long been known as a chemical constituent of them) and minutely divided arteries. These growths may degenerate into cartilaginous or bony deposits."—p. 6.

Let us now pass on to the diagnosis of these tumours, which is practically the most puzzling, and, in some cases, of critical importance. Mr. Lee observes, very truly, that "there is very little difficulty in detecting a hard, round, circumscribed tumour of the fundus uteri in an old woman in the decline of life, and with thin abdominal parietes;" but suppose we have a large tumour in the region of the uterus, and extending laterally to the ala of the os innominatum, or one filling up the brim of the pelvis and immoveable, or projecting backwards and pressing upon the rectum,—or any of the hundred questionable cases that occur in practice,—we shall find the diagnosis by no means so easy. The symptoms are seldom so characteristic as to enable us to decide from them, neither are they to be rejected, especially those which arise from mechanical disturbance. Upon these, and a very careful external and internal examination, our diagnosis must depend. The mechanical symptoms are, a fulness and weight in the pelvis; a desire to pass water frequently, with occasionally a little difficulty in doing so; some difficulty in emptying the rectum; and pains shooting through the pelvis and down the thighs, owing to the tumour pressing upon the nerves which traverse the pelvis.

The objects and results of examination *per vaginam* are thus stated by Mr. Lee:

"We have three indications before us: first, to ascertain the character of the os uteri and neck of the womb; secondly, the weight, with the mobility or immobility of the uterus; and thirdly, whether the uterus is connected to any mass previously felt above the pelvis.

"Tumours of the cervix uteri are very rare, but when placed in

that position they distort the os uteri, which can very rarely be felt; when anterior they bulge over the opening and throw it upwards and backwards; when posterior, the opposite result is produced. These tumours can be traced into the substance of the womb; there is no pedicle, but an apparent elongation of one of the lips. The tumour itself does not arise in the tissue of the cervix, but above it, and pushes that structure before it in its descent.

"In tumours of the cavity sometimes the os will be felt open, with a protruding mass between the lips, very sensitive, and which can be traced into the cavity; at others the os will be closed and the neck will become expanded and lost in the substance of the womb, as in pregnancy.

"When the tumour occupies the posterior wall, it usually pushes the os very much forward, under the pubis, sometimes so much so as to be with difficulty felt; at other times the neck of the womb lies closely attached to the under surface of the tumour, but so compressed that the uterine sound is unable to be passed. The observation of these peculiarities, which are produced by fibrous bodies on the neck of the womb, is very important; for, as we shall see, it is by these we are able to judge of the increase or decrease of the tumour itself; for if the tumour increase, still the lip of the neck will be felt; and if it decrease, it will become more developed and natural, occupying also its proper position in the pelvis.

"The second indication is to ascertain the weight, mobility, &c., of the uterus. In a properly balanced uterus, and one free from disease, we are hardly sensible of its weight when thrown up on the top of the finger. The weight of a virgin uterus is about an ounce, and after the woman has borne several children it is seldom more than one ounce and a half or two ounces, and is distinctly moveable in all directions; but when distended by pregnancy or a foreign body, there is a sensation of fulness perceived just above the neck, it bulges out towards the rectum and bladder, and when pushed upwards and allowed to fall upon the finger there is a distinct sense of weight. When a fibrous tumour exists the vagina is generally much lessened in its length, a hard mass is felt sometimes resting on the perinæum, almost immoveable, but when moveable, it is heavy, and pressure from below is generally communicated to the hand placed above the pubis. This lessening of the vagina, the hardness of the mass, the bulging of it into the rectum, and the communication of pressure from below to the hand above, gives good evidence of a fibrous tumour.

"When a tumour is distinctly felt above the pubis, we ascertain its connexion with the uterus by tracing it down into the pelvis, by drawing the tumour upwards, and observing the changes produced on the uterus itself, and by the introduction of the uterine sound, the handle of which will move with the corresponding motions of the tumour."—pp. 15, 16.

These may be called the positive grounds of diagnosis of uterine tumours, the comparative grounds are those we derive from the distinctive features of other diseases with which these tumours are liable to be confounded, as, for instance, induration, pregnancy, ovarian dropsy, abdominal tumours, polypi, &c. The characteristic peculiarities of these diseases, and their diagnostic marks, are very well enumerated by Mr. Lee, but our limits will not permit us to enter into a consideration of them. We shall, however, make a few remarks upon the positive signs given by our author. In the first place, we think he has spoken of the sensibility of these tumours in too general a manner, as if such was present in every case. Now, in many cases they are sensitive, no doubt; but in others the sensibility is merely that of the uterine tissue covering them, not increased, and by no means remarkable; whilst in many the sensibility is positively decreased. In some cases, where the tumour is pressing into the cavity, in process of becoming a polypoid tumour, it is positively insensible; this we have seen over and over again. This sign, therefore, must be cautiously used.

Again, we think Mr. Lee might have added to our means of fulfilling his second indication, by describing the normal situation and relations of the uterus in the pelvis in an upright or reclining position. These are pretty regular in the healthy, unimpregnated condition of the organ, and every practitioner necessarily ascertains them for himself, as a standard by which to judge of abnormal deviations; but they are rarely described in books. When the body is erect, the fundus uteri is tilled forward against the bladder; and if that viscus be empty, the body of the uterus may be said to rest against it, and upon and above the upper edge of the symphysis pubis, the cervix being consequently inclined backwards; the level of the os uteri being nearly that of the brim of the pelvis, if the patient have not borne children. If the patient lie down on her back or side, the position, and in some degree the level of the womb, will necessarily be altered. The fundus will fall backwards or to one side, and the whole organ will be higher in the pelvis.

An examination *per rectum* is of great value, not merely in distinguishing ovarian from uterine tumours, but by enabling us to trace further the continuity of substance in the latter. This continuity is also evident when slight percussion is made upon the abdominal tumour by one hand, a finger of the other being kept upon the cervix, and this we regard as

one of our most valuable means of diagnosis, but it is one that requires a good deal of experience.

Lastly, we think Mr. Lee has overrated the value of the uterine sound. We admit that in some cases it is highly useful, but there are many cases in which it cannot be introduced at all, as, indeed, Mr. Lee says; many in which, when introduced, it affords but little information; and others in which its use is positively mischievous.

"After rough manipulations with this instrument," Mr. Lee observes, "I have seen, in two cases, violent inflammatory peritonitis ensue; and inflammatory action is set up in some cases after the most careful introduction of it into the cavity of a uterus, when there are fibrous growths."—p. 24.

According to our experience, the uterus is highly sensitive and easily irritated, and, therefore, any investigation into the state of its cavity should be conducted carefully and gently.

Our limits prevent us at present entering upon a more lengthened examination of Mr. Lee's volume, but we may, perhaps, refer to it at another opportunity. Meantime, we repeat that it contains many valuable facts, and evinces careful and intelligent industry, and we strongly recommend it to the profession.

Notes on Epidemic Cholera. By R. HARTLEY KENNEDY, M. D., late Physician-General and President of the Medical Board, Bombay. Second Edition, revised. London: Smith and Elder. pp. 279. 1846.

THIS is one of those odd works which issue occasionally from the Press, in which the writer gets a theory into his head, makes a hobby of it, and ultimately rides it to death. Nor is there anything in this volume, as a whole, to set off against the theory which takes such a prominent place in the work. We have ever thought that medicine could not by possibility exist without something of theory to support it: but then the theory ought to consort with well-known facts; it should not, like the chrono-thermal theory of Dickson, be opposed to almost all that is known in medicine. What, then, is the theory advanced in respect to cholera? That its essence consists in "a nervous derangement, similar to concussion of the brain, and that the vomiting and purging are sanitary processes." This is what the author calls the *Lethi Fabricator* in cholera; and every opportunity is taken, throughout the work, to make facts square

with this theory. It is not merely that he would draw an analogy between the effects of "concussion of the brain," and the disease known as cholera, but he would lead us to suppose that this disease was actually a concussion of the brain. He thus speaks, p. 121:

"It is my object to convince my readers that the collapse in cholera is induced by concussion of the brain, produced by some unknown cause, and that the purging and vomiting are sanitary processes."

It must certainly strike every one as strange, to find in a work devoted to the consideration of cholera a chapter,—and a long one, too,—on concussion of the brain! Yet so it is; and we have actually a great part of what the celebrated Abernethy published, on concussion and its several stages, quoted at full length. Where, then, is the identity or similarity, we would ask, between the two? The one being the result of direct injury to the frame, and, without something of violence taking place, never exhibiting itself to the surgeon; the other the result of some agent, of which at present we are in total ignorance; of which the effects are as different as can well be imagined to exist between a medical and surgical disease. Is vomiting so common a result of concussion of the brain? We believe not. On the contrary it is a symptom which probably does not occur in more than half the cases which we meet with. Often it is merely a transitory symptom; and sometimes there exists but a feeling of nausea. The vomiting, however, which takes place in cholera, at least as we have seen the disease, is violent, and frequently most obstinate. Granting, however, that vomiting does occur in both diseases, what shall we say of the purging? We believe that in the great majority of cases of concussion the very contrary state obtains, that is, one of constipation. When the shock, indeed, is a very severe one, the sphincters of the bladder and rectum may be relaxed; but need we observe what a contrast there is between such a state and the case of a cholera patient affected with purging. But farther still, what possible analogy can there be between the alvine discharges of a cholera patient and one labouring under concussion? Not the remotest: the one is as characteristic as the other is wanting in expression, so to speak. But if we pass on to some other symptoms which the cholera presents, we are still farther from being able to find any analogy between the two diseases. It has never been our lot to witness anything in cases of concussion like the cramps of cholera, nor the same state of lividity of the extremities, or wrinkled state of the skin. We might pursue these remarks further, but the matter is really too absurd, and we therefore

hasten on to notice any points which appear of sufficient importance.

The two first chapters call for no remarks. They are occupied with a detail of how the author came to witness the disease, or, as he has expressed it, "The History of the Disease as it has appeared under my Observation;" and secondly, "Theories respecting Epidemic Cholera." In the third chapter we have the question of the contagious nature of cholera discussed. The author is a firm believer in its contagious character; hence we have a circumstantial account of how the disease was conveyed from one place to another, never reflecting for a moment that the disease appeared in places which had no known communication with any other at the time. The fact of a number of people being attacked with cholera in a certain locality is not sufficient proof of its contagious nature; other causes may have been, and no doubt were, in force at the time. Suppose we were to advance the opinion that because pneumonia occurs now and then under exactly similar circumstances, that therefore it was a contagious disease,—would we not be laughed at, and justly, too? The same might be advanced of other diseases, as croup, inflammation of the brain, &c. We think such considerations as these should make every one cautious when treating of the origin and spread of epidemic diseases, cholera amongst the rest. Whilst speaking thus of contagion, we do not positively assert that the latter disease may not become contagious under certain circumstances; but, from what has come under our own observation, we are inclined to the opinion that it is commonly not so. In the year 1832 we saw cases of the disease seven miles from Dublin, where the closest inquiry could not make out any communication with the city for weeks previously. We have also several times seen children remain healthy whilst sleeping in the same beds with their mothers, who were labouring under cholera. These reasons appear sufficient to at least make us cautious in coming to a conclusion on the matter, and so we leave it for the present(*a*).

Another point noticed in this same chapter is, whether cholera, as it appeared in the year 1817, be a new disease or not. After reading what the author says about it, we confess we are still in doubt as to his opinion. He seems, if we rightly understand him, to think that the disease had appeared before;

(*a*) In connexion with the progress and spread of Asiatic cholera, and its contagious character, we beg to refer our readers to Dr. Graves' masterly report on that subject in the sixteenth and seventeenth volumes of our former series.—ED.

and this is one of the few points in which we agree with him. It has often happened to us to hear persons express their opinion that the cholera had never appeared before,—that in fact it was a new disease. The opinion on this matter seems to be very general, and yet we are satisfied it is an erroneous one. For proof of this assertion we need only refer to the work of Curtis on the Diseases of India, published, if we mistake not, in the year 1807. In it will be found the disease described so accurately that the reader cannot have the slightest doubt on his mind but that the genuine Asiatic cholera had been witnessed by that author. It is called the "spasmodic cholera cramp;" and were not the extract a very long one, we would introduce it here. This point, considered in a general way, is one of some importance, but our space forbids any further notice of it.

Chapters VI. and VII., "On the Nature and Character of critical Discharges," and "On the nosological application of Cholera," call for no notice, except that we are quite at a loss to understand what objects the writer could have had in penning them. Both of them abound in long Latin quotations, and in extracts from the writings of Abernethy and others, all of which might better have been left out, the more so as they have no practical bearing on the subject at all.

Chapter VIII., "On the Varieties and Anomalies which appear in Cholera, and on the *Cholera Spontanea* of Cullen." We have here described the three varieties under which the disease shewed itself in India. The two first are descriptive of the disease as it appeared in the greater number of places; the one merely differing from the other in the greater intensity of the symptoms present. The third is a much rarer form of the affection, though even it seems to be but a more exaggerated degree of the two former. It is, however, remarkable in this respect, that there was neither vomiting nor purging present in this form of the disease; collapse marked its onset and its termination, while its course was run in a period varying from one to four or six hours. Cases of this description were met with in Dublin in 1832–3.

In Chapter IX. we have Dr. Kennedy's account of the practice which he adopted in the disease, and which, of course, he says he found most useful. It is avowedly founded on the theory before noticed. We confess, as far as our experience of it has gone, it would not agree with the author's. Following out his theory, the first measure advised is bleeding, which he speaks of as if it were a means which could always be used, provided the patient be seen at an early stage of the disease. This does

not accord with what we have seen, nor do we think it at all prudent for an important measure, as this must ever be, to be spoken of so much as a matter of course part of the treatment. Cases do occur, we know, where blood may be taken with advantage, but it by no means follows that such treatment is therefore to be generally adopted. From the author's writings one would never suppose that there was actual danger in such a plan of treatment, and yet we have heard of such a result; a circumstance which is particularly noticed by Annesley in his great work. This able writer states that he knew of several instances of the patients sinking at once on blood being taken from the arm. It appears rather strange, that Dr. Kennedy never notices Annesley's writings at all, though on some points they might have been referred to with the greatest advantage to the subject under consideration. On local bleeding our author is entirely silent, as if he never had recourse to it at all: we however, have seen it very beneficial; and a few leeches applied over the stomach, and a cupping-glass subsequently, appeared to us a most effectual means of allaying the vomiting.

But our author believes the vomiting and purging which take place in cholera to be "sanitary processes;" and hence, on this theory, it may be at once guessed what other treatment he advises, viz., emetics and purgatives. Now we believe the former class of medicines to be very useful in the collapsed stage of cholera; not, however, because they add to the vomiting already existing, but because they are amongst the best means we possess for allaying it. We object *in toto* to the class of emetics advised (hippo and tartar emetic), and in their place would substitute powdered mustard, as being an agent which, while it is very certain to act as an emetic, is also useful in rousing the system from the state of collapse; and which, should it not act as an emetic, we have seen most beneficial in the way we allude to.

Purgatives are another class of medicines on which the author seems to have placed the greatest reliance. At p. 231 we have the formula for the particular mixture which he was in the habit of ordering, consisting of castor oil, honey, tincture of opium, and camphor mixture; of this an ounce was given according to circumstances. This was not a form of medicine at all suited to the disease when it appeared amongst us. Any thing of the sort was at once vomited; and one of the greatest difficulties appeared to us to consist in allaying the irritability of the stomach, which a mixture of this sort would certainly not do. But there is another consideration not to be lost sight

of. From the author's remarks he seems to look upon purgatives as a necessary part of the treatment; but whether this be so seems more than doubtful. This we can positively assert, that here a great number of persons attacked with the cholera had premonitory diarrhœa; and for the cure of this we found nothing more efficacious than astringent draughts. Our management of the disease itself has been successful precisely as we were able to check the purging. The immense serous discharges, so characteristic of the complaint, must be derived from the blood, and hence we would explain the advantages derived from the astringent treatment. It is our conviction that much has yet to be learned of the management of cholera within the first four or five hours after the onset of the real disease.

With the medicines just spoken of the author used pills of camphor and opium, whilst externally the patient was well rubbed with an anodyne and stimulant liniment; and in case the vomiting proved obstinate, active blistering was used.

On the secondary fever of the disease the author gives us actually but half a page! True, indeed, he may not have seen such an affection in India: we can only say that in Ireland it formed a most important sequela of cholera, and materially added to the mortality of the disease.

As a whole, the work before us, considering that it is a second edition, seems to have been uncalled for. If we except the theories, there is really nothing in the work which has not been infinitely better handled in the works of Annesley and others. When the first edition appeared, in 1826, we might have been inclined to look at it in a different point of view; but twenty years have added much to our knowledge of the disease, which knowledge, we fear, our author has not made himself acquainted with.

A Commentary on the Hindu System of Medicine. By T. A. Wise, M. D., &c., Bengal Medical Service. Calcutta, 1845. 8vo. pp. 431.

Although Indian chronology is but matter of doubtful computation, down to the period when the history of the Hindus becomes contemporaneous with that of Europe, it is, nevertheless, certain that at a very early age the Hindus had attained a higher degree of civilization, and had made greater advances in the arts and sciences, than any other ancient people, except the Egyptians. A great portion of the inscriptions discovered in various parts of India, on monuments of different kinds, relate

to a very remote era; whilst many of the monuments themselves, for grandeur of conception, delicacy of execution, and expense of construction, are unrivalled by the works of modern days. A people who had thus distinguished themselves in the very dawn of history by their power, their riches, and their scientific attainments, may be supposed to have studied with much care and zeal the means of alleviating pain and curing disease. That this was really the case the Hindu records of medicine clearly indicate; for "one of the fourteen *ratnas*, or precious objects which their gods are believed to have produced by churning the ocean, was a learned physician."

The sacred documents on which the proof of Indian antiquity rests are the Vedas: they are supposed to be the original code of divine legislation received from Bramha, and were believed to contain all the knowledge required by mankind. The date of their compilation, as calculated by the astronomical observations which they contain, has been fixed at the fourteenth century before the Christian era, or about two centuries before the ordinary date of the fall of Troy.

When we first advert to the subject, it appears, indeed, extremely improbable that scientific treatises should have been preserved from so distant a period. The best informed and most judicious Anglo-Indian scholars, however, seem unanimous in the opinion that the above date, assigned to these observations by Mr. Davis, one of the most successful investigators of Indian astronomy, is correct. Some centuries afterwards,—about the time, it is supposed, of the promulgation of Menu's code of laws,—other supplementary Vedas, called Upavedas, were added; one of which, the Ayur-veda, is a system of medicine, and is considered to be of the highest authority. This is the sacred medical record of the Hindus, and "was intended to teach the proper manner of living in this world, by preventing and curing diseases in the present state." Of this remarkable work little has escaped the destructive ravages of time; numerous commentaries, called Shastres, have, however, been written upon it, from which we are enabled to judge of the contents and arrangement of the great original.

Dr. Wise, feeling a strong interest in the history of medical science, has employed his leisure for many years in noting the development of systems in different schools and nations, and was induced, at an early period of his residence in Bengal, to examine the Hindu medical Shastres. Whilst other Sanscrit compositions have engaged the attention of European philosophers, the medical Shastres have been hitherto for the most part either neglected or undervalued; and although fre-

quent allusions are made to them in the works of Wilson, Heyne, and Ainslie, a comprehensive view of the Hindu system of medicine was still wanting to complete our information on the subject. It has even been asserted by Sir William Jones, "that there is no evidence that in any language of Asia there exists one original treatise on medicine considered as a science :" and Mill says: "Even medicine and surgery, to the cultivation of which so obvious and powerful an interest invites, has scarcely, beyond the degree of most uncultivated tribes, attracted the rude understandings of the Hindus." To refute these opinions, and to supply the deficiency in the ancient history of medicine, Dr. Wise has published the present volume.

The first part is devoted to "the consideration of the origin and history of medicine ; of the rank of practitioners and the duties of teachers ; of the character and duties of pupils; of the duties of the physician, attendants, and patient; and of the recompense of practitioners."

It appears that the sacred Ayur-veda contained treatises on surgery, practice of physic, demoniacal possession, toxicology, and other subjects ; to these was added a description of the structure of the human body, which there is every reason to believe was derived from actual dissection, as the prejudices against touching the dead body were not in existence at the time it was written.

The voluminous character of the Ayur-veda, and the obscurity of its style, induced various sages, at subsequent periods, to abridge, condense, and explain its contents ; and thus originated numerous other medical works, for the titles of which, as well as the names and histories of their authors, we must refer our readers to Dr. Wise's commentary.

The Hindu physicians constitute the medical caste of the Vaidhyas, or those who understand *vidya*, i. e. the Ayur-veda or medical Shastre. These physicians have free access to the various Shastres or commentaries on the sacred writings, and are the professed, though not the exclusive, practitioners and teachers of the healing art. The qualifications necessary to form a successful student and a good physician are enumerated with much minuteness, and exhibit a strange combination of sound sense and superstitious folly. Thus we are told that the student "should be active in his duties and not fatigued by his studies ; he should possess gravity, a good memory, acute senses, and considerable acquirements." But if he seek for long life, "he should eat with his face to the east ; if for exalted fame, to the south," &c.

Amongst the indispensable attributes of a physician, "he

should possess a healthy body ; he should keep his nails and beard short, his body pure, his clothes clean, and he should wear shoes and a small turban. He should carry an umbrella and a stick in his hand."

In the description of his character, however, we find many admirable qualities. The good physician should possess, besides a perfect knowledge of his profession,

> " A retentive memory, and should always be amiable, cheerful, and collected. * * * His language should be mild, candid, and encouraging, rather like that of a friend than an acquaintance ; and he should be always ready to assist the sick. His heart should be pure and charitable ; he should possess a character for strict veracity ; should be of calm temper, and of the greatest sobriety and chastity."

The necessity for practical knowledge and experience is everywhere strongly insisted on, without which a mere knowledge of books will never insure success, or lead to eminence. It is the combination of these two essential qualifications,—the knowledge of the Shastres and of practice,—which is required, " when medicine becomes like the water of immortality."

The value of mercury as a therapeutic agent appears to have been appreciated by the Hindu sages, even at these early times ; for they state that—

> " The practitioner who knows the value of quicksilver, &c., is like a god ; one who knows the qualities of herbs and roots is like a man ; one who knows the use of the knife, and of fire, resembles a demon ; and he who knows the proper prayers to be offered up in the time of sickness, is like a prophet."

The directions given to physicians for their general conduct are numerous but unimportant; the greater number of them have reference to the peculiar superstitions of the Hindus, and amongst these the careful observance of omens is strictly enjoined. A great deal of very judicious advice is given respecting the mode of examining a patient, and of ascertaining the state of the different functions, secretions, and evacuations. The practitioner is recommended to observe much caution in the employment of medicine in fatal diseases; as, " by administering medicines in such cases, without previously stating the danger the patient is in to his relations, he will only bring discredit on himself and on his profession." He is also warned, that a physician who attends a patient without having been called in " will never be respected."

The chapter " On the Recompense of the Physician," is a short one; it contains, however, many just and benevolent precepts, though mixed up, as usual, with Hindu prejudices:

"When a physician has cured a disease, he is entitled to the usual gifts for the performance of a good action. These will vary with the rank and condition of the patient. Money will be the recompense bestowed by the rich; friendship, reputation, increase of virtue, prayers, and gratitude, will be that of the poor. When a Guru, Brahman, or a Dandi, a relative, an humble and good friend, or one without relatives, consults a physician, he must not accept of any pecuniary recompense: his reward in such cases will be an increase of knowledge, and the gratification of his desires in having an opportunity of performing a good action. His cures will insure the admiration and esteem of all men; he will be honoured and respected as a master, and after death he will go to heaven. Should the patient prove ungrateful after being cured, his holiness and good fortune will pass to the physician. But the physician must avoid administering remedies to hunters or great sinners. Such people do not deserve his assistance."

In the second book are considered the elements of the body, generation, and growth; the nature of the corporeal, vital, and spiritual parts; the nature of temperaments, ages, and death.

The signs of pregnancy recognised by the Hindus are:

"The skin round the nipples becoming of a dark colour, and the hair upon the body becoming more distinct and prominent. The person feels weak, the eye-lids heavy, and the eye-lashes closed; much saliva is secreted; sickness and vomiting occur; and even pleasant-smelling things are disliked, and produce sickness."

The longings of the pregnant woman, it is observed, should always be gratified, otherwise "the child will be born crooked and crippled, or will be small in size, dumb, or cannot speak distinctly; will be blind, or have his eyes defective, or will be an unbeliever in the sacred Shastres." The menstrual discharge is stated to be blood in an altered state, and the average period of its duration from the twelth to the fiftieth year of age.

The Hindu Shastres allow ten calendar months for the perfection of the fœtus *in utero;* and the circumstances of its expulsion are thus detailed:

"At the tenth month the fœtus acquires knowledge, and prays to God, and sees the seven heavens, the earth, and the inferior regions. By the air of the pelvis (*opana bayu*) the fœtus is then expelled; as an arrow is shot from a bow, and the child falls insensible to the ground. All his former knowledge is immediately forgotten, and on losing so many pleasing illusions, he cries."

The anatomical and physiological sections contain much interesting matter, which proves that the ancient Hindus had

made considerable progress in these sciences; our limits, however, will not admit of our alluding more particularly to this portion of the work.

In the chapter on Death, the immortality of the soul is distinctly affirmed; and the doctrine of metempsychosis fully developed. The reflections on death in the following passage are full of truth and sound morality:

"Death is always near; and when it occurs, nothing but the sins and virtuous actions which have been performed accompany the soul. When a person leaves his corpse, like a log or a lump of clay, on the ground, his kindred retire with averted faces; but his virtue accompanies his soul. Continually, therefore, let him collect virtue, for the sake of securing an inseparable companion, with which he may traverse a gloom, how hard to be traversed! For, in his passage to the next world, neither his father nor his mother, nor his wife, nor his son, nor his kinsmen, will remain in his company; his virtues alone will adhere to him. Single is each man born; single he dies; single he receives the reward of his good, and single the punishment of his evil deeds."

The third book treats of therapeutics, under which head are included the various means employed by the physician for curing diseases, namely, "Hygeology or regimen; Materia Medica and Pharmacy, or preparation of medicinal agents; and Surgery, or all manual applications for the cure of injuries and diseases."

The practitioner is directed to give instructions to persons consulting him, not only as to the manner of curing, but also of preventing the occurrence of disease. These instructions relate especially to early rising, cleansing the mouth, anointing the body, exercise, shampooing and rubbing the body, bathing, clothing, diet, and sleeping. On the subject of diet Dr. Wise says:

"The Hindu medical writers usually commence the cure of a disease by arranging the diet that is to be followed by the sick person. So much do the Hindu physicians rely upon diet, that they declare that most diseases may be cured by following dietetic rules; and if a patient does not attend to his diet, a hundred good medicines will not remove the disease. The generality of diseases being supposed to be produced by derangement of the humours, if one or more are morbidly increased in quantity, their indications of cure are commenced by promoting the just balance of the elements and humours, by a judicious choice of aliments, and by such means as assist the vital principle on the completion of the assimilation. On this account they have not only been careful in describing the regimen, but also the food and drink for the different seasons, and even the vessels in which they should be kept."

The *materia medica* of the ancient Hindus was evidently very comprehensive, including remedies derived from the vegetable, animal, and mineral kingdoms. Dr. Wise has given a catalogue of the principal medicinal agents, arranged according to their effects, with their modes of preparation and administration, doses, &c. Amongst the most important articles we find four different preparations of mercury,—the black, the white, the yellow, and the red. To each of these extraordinary virtues are ascribed, and we are told that when they affect the gums a gargle of curdled milk should be employed. Lead is used for the cure of gonorrhœa and chronic diarrhœa; tin as an anthelmintic; and the white oxide of arsenic, in combination with aromatics, is recommended to check obstinate intermittent fevers. The department of surgery is held in high estimation by the Hindus. In the Ayur-veda it is considered as the first of the eight branches of the medical science imparted by the Deity to mankind; and the successful performance of operations is declared to "impart holiness, riches, and a good name, and to ensure a passage to Heaven after death."

In the chapter on surgery are described the nature of those diseases which are to be cured by surgical means, the mode of performing operations, the different instruments employed, and the treatment of accidental injuries.

The operations for improving and forming new ears and noses are those which are most minutely described. The loss of the nose being a frequent punishment in the native courts, it is probable that the Hindu surgeons were often called in to repair the deficiency; consequently, rhinoplastic operations demanded, and seem to have received, considerable attention from them. The following are the directions given for making a new nose:

> "A fresh leaf is first cut, of exactly the size of the nose; it is then to be placed upon the cheek, and the necessary quantity of skin and cellular membrane is to be dissected. The nose is then to be scarified, and after dissecting up the flap, it is to be placed upon the raw part of the nose, to which it will adhere. Sutures and bandages are applied to keep the parts together. After the bandage has been applied, a couple of wooden canulæ are to be introduced into the nostrils, to allow breathing, and to support the new nose. A piece of linen cloth, previously soaked in oil, is to be applied over the bandage; an aperient is then to be given to the patient, and his general health is to be attended to."

The fourth book contains remarks on disease in general, followed by the description and treatment of particular dis-

cases. The irregularities in the quantity and quality of the humours are stated to be the proximate cause of diseases; and among the humours subject to derangement, life is included.

"Life is the last formed of the humours, and is the chief; for as long as it remains, the muscles continue to perform their offices, and the person's voice, and the colour of his body, continues good, and the ten senses continue in a healthy state. When diminished, the body dries, and without it, the person dies."(*a*)

Small-pox, we are informed, was well known at a very early period in Hindustan; and so much was it dreaded by the native physicians, on account of its frequency and virulence, that they raised it to the rank and honours of a goddess, named Shitalá, whom they endeavour to propitiate, even at the present day, with prayers and offerings, whenever the disease makes its appearance. Five different forms of ulceration are described as occurring on the genital organs, some of which are ascribed to impure connexion: no mention, however, being made of any constitutional affection resulting from them, we may fairly conclude that they were mere local diseases. In this book our author brings forward his own views respecting the origin of small-pox and syphilis, and arrives at the conclusion that the venereal disease "was introduced from America to Europe and Asia; as the small-pox and measles seem to have first appeared in Asia, from whence they spread, and committed such ravages in Africa, Europe, and America."

Midwifery, and the diseases of women and children, form the subjects of the fifth book. In this, the concluding section of the work, the management of women during pregnancy and labour, together with the means of preventing abortion, are fully treated of; directions are also given for the choice of a wet nurse; and the most approved Hindu methods of treating infantile diseases, and of warding off the attacks of evil spirits or devils, are described in detail.

We have, in the above notice, endeavoured to give our readers a general idea of the nature and scope of Dr. Wise's Commentary. Of the learning and labour which our author has bestowed upon it we cannot avoid expressing our admiration; and to all who feel an interest in what may be termed the antiquities of medicine, we feel pleasure in recommending it, as a work from the perusal of which they will derive much gratification.

(*a*) This vital humour must, therefore, be analogous to, if not identical with, the "radical moisture" of Mr. Shandy; the importance of which, in keeping the "radical heat" within due bounds, is so conclusively proved in that gentleman's "Tristra-pædia."

1. *Practical Observations on some of the Diseases of the Stomach and Alimentary Canal.* By James Alderson, M.D., F.R.S., 8vo. London, Longmans. 1847. pp. 215; with 10 Plates.
2. *On Indigestion, and certain Bilious Disorders often conjoined with it, to which are added, Short Notes on Diet.* By George Chaplin Child, M.D. 8vo. London, Churchill. 1847. pp. 219.
3. *A Treatise on Diet and Regimen.* By W. H. Robertson, M.D. Fourth Edition, Parts I. and II. 12mo. London, Churchill. 1847.
4. *On Dyspepsia; with Remarks in support of the Opinion that the Cause of this and all other Diseases affecting the general System is Vitiation of the Blood.* By J. B. Steward, M.D. London, Churchill. 1847. 8vo. pp. 106.

As a consequence of the artificial life which the greater part of mankind lead,—some from necessity, and others of their own free will,—indigestion, and the various derangements of the stomach, both functional and organic, to which it gives rise, are among the principal diseases which the physician has to treat. It cannot be wondered at, then, that treatises on these affections abound, and that medical men, looking for a means of bringing, or rather forcing, themselves into practice,—taking for their theme one or more of the Protean forms which indigestion assumes,—write a book calculated to catch the eye of the *bilious* public.

The *irregular* quack, also, trades largely on the maladies, both real and imaginary, of the stomach and alimentary canal, and sometimes without much disadvantage to his patient. Most hypochondriacal individuals, who expect the regular physician to cure them by medicines alone, without the aid of dietetic rules, will be found to adhere scrupulously to the hygienic treatment of the homëopathist (we beg pardon, the professor of the *natural treatment* of disease, as we should term him, were we to subscribe to the *ipse dixit* of one of our British Medical Reviews), or any other empiricist.

We have been led to make the foregoing remarks by a perusal of Dr. Alderson's work, which owes its birth to the author's "comparative leisure, consequent on a change of residence:" namely, from Hull to London. In large cities it very frequently occurs, that a physician acquires a name, and often most justly, for the treatment of a particular class of diseases, from having written on the subject: the chance of a similar success is too tempting to be overlooked, and therefore nume-

rous books, written with this view alone, and published at the author's own risk, are annually issued from the medical press; such works, however, bear their own peculiar stamp, and rarely escape the eye of the critic.

From the title of Dr. Alderson's book the reader would be led to expect a tolerably complete description of many of the diseases to which the stomach is liable; but the greater part of it is devoted to the consideration of cancer, or, as he prefers to term it, "carcinoma" of that viscus; a few "cursory observations" on functional derangements of the digestive organs being appended. The author is modest enough to declare, in his preface, that "he claims neither the character of a discoverer nor of a theorist, nor of a proposer of any particularly novel or specific plan of treatment." What, then, our readers may justly inquire, induced him to appear in print? To this question the only answer we can give is what we have stated in the preceding paragraph. We have read the book carefully through,—no light task,—and we cannot say that we have met in it a single novel view, much less a single practical hint, which would prove useful to the physician.

If a work possess any practical value, be it ever so little; or if the author, in writing it, appears to be actuated chiefly with the wish of benefiting his professional brethren, by imparting to them either some new views of medicine, or gleanings from his own experience, it has never been our habit to cry him down because his language may be occasionally obscure, or his grammar not classically correct; but when we meet with a work, to our judgment, published on other than strictly professional grounds, we feel it our duty to criticize the author's style as well as his material.

In Dr. Alderson's work we find numerous examples of obscurity of language (his meaning we have had, in some instances, great difficulty in arriving at), of peculiarity (we know not what else to call it) of style, of bad grammar, and of bad pathology. As we read the book we noted a few specimens under each of these heads; and, considering that the author was *formerly a Fellow of Pembroke College, Cambridge,* we are sure that our readers will be no less astonished at them than we were ourselves.

The following are but a few samples of the author's obscurity:—

"Ultimately, even liquids will not pass into the stomach, and the patient, having subsisted on his own fat, *at last dies, emaciated, of starvation.*"—p. 21.

"The periods, therefore, at which the vomiting returned after eating, *preceded by pain*, pointed to the interior of the stomach for the seat of the undefined fulness."—p. 74.

"The same pain being occasioned by pressure over the part *which* he had always felt previously to vomiting."—p. 87.

Speaking of the valvulæ conniventes of the colon, as a provision for accumulation, he remarks:—

"Still, supposing that nature is thus bountiful in protective supervision, we are furnished with no excuse to neglect scientific reasoning as to the best means to assist in averting the error, nor are individuals exempt from those continual duties, in regard to this important point in the preservation of health, which reason and experience make evident."—p. 181.

This sentence, we honestly confess, is far beyond our comprehension. Take the following examples of the author's style:—

"I found him considerably *shrunk from* his former proportions, but not emaciated. His inspiration was rapid, and air was *taken in* by the nostrils, that is, he sniffed air into the lungs every now and then."—p. 41.

"I have said that the disease is *obnoxious* to all situations in the œsophagus."—p. 31. "The excess of pain at the pit of the stomach was *negative against* disease of the pancreas."—p. 73.

"The symptoms gradually increased *upon* him."—p. 57. "His symptoms gradually increased *upon* him."—p. 62, &c.

"This fluid, after being vomited, and *at rest*, deposited a muddy sediment, like that *made* after rain in a macadamised road."—p. 87.

"His apprehensions were so urgent that I *gave way*, to sanction a free cupping from the nape of the neck. *This*, with fresh aperients, subdued the head symptom."—p. 104.

Speaking of the complexion in cancerous diseases:

"It consists in a certain dingy, sallow, exsanguinous, yet opaque, appearance; it is unlike the yellow tint of jaundice, or the opacity seen in some states of heart disease. The eye is sunken, the adnata pearly; there is a peculiar cast of countenance, expressive more of care and depression, than of dissatisfaction, and more of deep thought, than of peevishness."—p. 195.

Bad grammar abounds throughout the book. Adjectives put for adverbs; for example: "from which four months *previous* the fungoid tumour had been removed."—p. 63. Adjectives for substantives: "The *chief* of the disorganization was in the larger curvature."—p. 68. "Owes the *chief* of its in-

terest."—p. 191. Verbs active for verbs neuter: "The whole of the tube to this point *enlarges*."—p. 99. "Sulphur taken internally soon *exhales* from the skin."—p. 180. Sometimes a plural verb follows a singular nominative, and sometimes, on the other hand, a singular verb a plural nominative, thus: "Diarrhœa *or* dysentery *follow*."—p. 99. "There *is* often morbid appetite *and* considerable thirst."—p. 100. "*Local irritation* on the skin, as erythema and erysipelas in the lower extremities, sometimes *appear*."—p. 102. "Decomposition *or* fermentation *take* place."—p. 183.

The following examples of Dr. Alderson's pathology do not require from us either note or comment:—

"Hydatid tumours also frequently point early, which evidences their character."—p. 55.

"These two characteristic symptoms, pain and vomiting, are sometimes, though rarely, wanting. It is difficult to account for the absence of the pain. I can myself find no other probable explanation than the following: viz., that cancerous deposit, without ulceration, has been made in the course of nervous communication between the ulcerated part and the brain: the opposite exemplification of this is apparent when cancer has its seat amongst nervous matter and is ulcerated: here intense pain is the result."—p. 76.

"A shivering fit, accompanied by delirium, marks the time when *perforation finds its way* through the coats."

"This process of throwing out lymph, which is called instinctive, or by others preservative, is, in fact, more properly but a prolonged process of destruction. It occurs *only* in chronic disease, and where the constitution is in a failing state, and *never* in early life, and in acute disease, when such a restorative effort on the part of nature would be naturally looked for."—p. 120.

Dr. Alderson has appended to his book coloured lithographs of the morbid appearances in some of the cases he details. They are, however, so badly coloured, that it is almost impossible to make out what is meant by them. We wish authors would be convinced, that badly or incorrectly coloured drawings are anything but an advantage to the reader; an uncoloured lithograph is, most generally, far more faithful, as is exemplified in the present instance, where the third plate,—the only uncoloured one,—affords a graphic delineation of the morbid appearances intended to be represented. We had a similar fault to find with Dr. Burrowes' book, reviewed in our last volume.

We turn now, with pleasure, from the ungracious task which the sense of the duty we owe to our professional brethren has imposed upon us, to give a short notice of Dr. Child's

treatise on indigestion. We do not remember to have ever read a medical book, which impressed us with a more favourable opinion of an author than this. Though not abounding in any very novel views of the subject, it contains the author's experience, for several years, of the treatment of the varied forms which indigestion assumes. The symptoms of more than 200 cases have been carefully tabulated, the results thus obtained judiciously analyzed, and important practical precepts thence deduced.

This is a book that does not admit of analysis; the matter it contains is admirably and clearly condensed, and is well deserving of a careful perusal. The following extract conveys a good idea of the author's style:

"The regulation of the diet in indigestion is, in some respects, even more important than the medicinal treatment: thus many cases require for their cure nothing beyond a suitable regimen, while without it drugs will be of no avail. The obstacles which here oppose the practitioner do not usually arise from any difficulty in selecting a proper diet, but rather from the difficulty of getting patients to adhere to it faithfully. When habits of indulgence in eating and drinking have taken fast hold, they are not easily relinquished, and the progress of the cure is every now and then interrupted by some slight outbreak, or dietetic error. The most difficult class of persons to deal with, however, are, unquestionably, those who profess to know the peculiar nature of their stomach, and all that agrees or disagrees with it, although the perverseness with which individuals so circumstanced blame the wrong thing, has grown into a jest.

"Dyspeptics are often unreasonable as to what may be in fairness expected from medicine; they are ready to follow prescriptions exactly, provided the customary good dinner is to be their reward, and their object in consulting the physician seems less for the purpose of being cured of indigestion than of being enabled to continue their luxurious mode of life. They are ingenious in finding excuses for indulging in a favourite dish; thus, if they have, on the remonstrance of their attendant, abandoned some article accused of producing acidity or flatulence, they are apt, if the promised good effects do not almost immediately ensue, to make a handle of the circumstance, and to argue, that, as abstaining from the kind of food in question does no good, so there can be no harm in again returning to it."—pp. 204–5.

Of the fourth edition of Dr. Robertson's Treatise on Diet and Regimen, two parts only have been yet published. The author states, in his preface, that the work has been entirely re-written and its matter more than doubled in quantity. In the first part we are presented with an introductory chapter not contained in the former edition:—

"On the origin of sporadic, endemic, and epidemic disease,—the influence of civilization on human health and the expectation of life,—the importance of information on the physical necessities of health, and the principal sources of disease,—and the evils which arise from the general ignorance of the public on sanitary questions, and from quackery, which is the child of such ignorance."

So far as we are able to judge from the two parts before us, Dr. Robertson's treatise appears to be written in a light and popular style, and to contain much information on the subject of dietetics. We refrain, however, from offering any critical remarks on the contents, until the work shall be completed.

In a little book, made up of oceans of margin and waves of type, the title of which we have placed fourth on our list, Dr. Steward sets up a *public* claim to the treatment of dyspepsia, on the grounds of having been a sufferer from the disease, and of having cured himself:

"The author's success, not only in his own case, but in dispensary as well as private practice, induces him to submit the following remarks to the consideration of the public, in the hope of further extending to others the relief he has effected in himself; for he may now, with truth, say that he is, and has for many years been, free from all the evils he has enumerated: he can eat, drink, and sleep like other persons, and no longer fears the moderate enjoyment of those social comforts which, whilst they renovate the strength and fit us for exertion, stimulate the sullen to gaiety, make the lively more cheerful, dissipate the cold formality which often enshrines talent, and, in the refinement which attends it" (what?), "enables us to forget the animal necessity."

Here are bright prospects to hold out to the London aldermen, and all other *bon vivant* citizens! The pleasures of the table may be for the future enjoyed without any fear of the after-consequences. They need never again

> "Defy
> That which they love most tenderly,
> Quarrel with mine'd pies, and disparage
> Their best and dearest friend, plum-porridge,
> Fat pig, and goose itself, oppose,
> And blaspheme custard through the nose."

Or, rather, they should court an attack of dyspepsia, for then they must consult Dr. Steward, who, if they be sullen, will make them gay; if lively, more cheerful; remove the shrine from their talent; and, best gift of all, enable them to enjoy the refinement of gluttony!

Our author is a humoralist, believing that "the proximate cause of all diseases consists in some alteration in the force,

quantity, or quality of the circulating fluid;" and he thinks that the want of success, which has hitherto attended the treatment of dyspepsia, must be ascribed to the rejection of the humoral pathology.

We shall not offend the common sense of our readers with any account of the strange reasoning of Dr. Steward in support of his, in the present day, novel pathological views. We need only state that, in the commencement of his argument, he gives the reader a rather startling insight into his knowledge of physiology; for he says that the chyme is *one* of the component parts of the chyle, the former being converted into the latter by the action of the bile!—p. 33.

Notwithstanding the author's false reasoning and ignorance of pathology and physiology, we confess that we looked with some interest to his chapters on therapeutics, to learn the novel treatment of a humoral physician; and we can scarcely expect our readers to believe us when we tell them that Dr. Steward treats dyspepsia by attention to diet, the rule for regimen being, "to avoid everything which, when taken, produces uneasiness" (a rule, by-the-by, which would cure most dyspeptics by starving them to death), and by the administration of alteratives, purgatives, antacids, carminatives, and antispasmodics, as they may be required. Mustard-seed swallowed whole he also finds useful. In pyrosis he employs nitrate of silver; and, in convalescence, tonics. For drink he recommends water, but, when it offends the stomach (p. 60), he allows fresh beer, "perwisin," with Sairey Gamp, "that it is brought reg'lar and draw'd mild."

So much for novelty!

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

REPORT

UPON THE PATHOLOGY OF TUBERCLE.

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The morbid product of which we propose a review is the most interesting as well as the most important with which the pathologist has to do, because the diseases which are its direct consequence have become, among late generations, so general, and are of such a fatal nature, that it may well be denominated the *blight* of mankind.

In former times the term *tubercle* had a much wider signification than at present, having been applied to all tumours of a tubercular or nodular shape; and even at no remote date, Dr. Baillie gave this name to the fibrinous tumours of the uterus: now, however, the term is applied only to those bodies which are the product of a peculiar tendency of system, which is essentially morbid in its character.

Perhaps there is no subject on which more minute observations, more talent and medical research have been employed, than on that of tubercle and tubercular disease; and still we find opinions the very opposite prevailing, even among those who may be considered the strictest observers; and these conflicting opinions, too, are upon that very part of the subject on which it would be most desirable to possess definite conclusions. We refer in particular to the proximate cause of tubercle, to which point, however, we shall return in a future part of this Report.

The "morbid tendency" to which we have referred as a necessary condition in the occurrence of tubercular deposits, has been designated by several terms, such as "strumous habit," "tubercular cachexia," and "tuberculosis;" and the "scrofulous diathesis" nearly implies the same meaning.

In the pathological discussion of this subject it would be out of place to dwell at length on the peculiar and various causes which

lead to the dissemination of this morbid state of system among the community. As it is with the heterologous production itself we have more immediately to do, the remarks which are to follow will be directed especially to that which presents phenomena characteristic of "tuberculosis," and which, for convenience of description, we shall continue to denominate "scrofulous tubercle."

True scrofulous tubercle is generally of a roundish form, whitish or whitish-yellow, and opaque; is friable and soft, consisting of various elements, but which, on microscopical examination, presents characters which may be considered somewhat peculiar, viz. :

1. An amorphous transparent stroma, resembling, in chemical reaction, coagulated fibrin. 2. Unorganized granules which are minute, varying in diameter from the 800th to the 1200th part of an inch, and are not unlike the albuminous granules of the blood. These granules do not always exhibit the same reaction with chemical agents, which seems to be owing to the period they have been deposited. 3. Cytoblasts or imperfectly formed cells, varying in size between the 200th and 500th of a line;—but never in our observations could we recognise a nucleus in any of these cells.

Of these three elements, the granules generally predominate, and indeed it seems to me questionable if the cells should be considered a proper ingredient of true tubercle, as they are frequently altogether wanting.

In addition to the fat cells and pus corpuscles, though accidental, are not unfrequently present ; and if much inflammation has attended their deposition, they may differ in character and appearance very much from what has been just stated.

Laennec(*a*) described small transparent bodies, under the name of "miliary tubercles," as the first stage of tubercular deposit. Louis(*b*), in 1829, recognised the same bodies as the primary stage of true scrofulous tubercle. These "miliary bodies" of Laennec have since received a good deal of attention, and his views concerning them have been questioned. Bayle denominating them "miliary granulations," considered them bodies of a *peculiar* nature, and not analogous to tubercle; Broussais(*c*) as enlarged lymphatic glands,—but there is no evidence of lymphatics existing in the lungs to such an amount; Dardonville as the remains of old scrofulous tubercles; and Ravin as hypertrophy of the cartilaginous plates of the minute bronchi. Andral thought them minute air-cells filled with indurated fibrine, the result of a chronic inflammation, which seems their most probable nature.

These bodies do not, therefore, necessarily form the first stage of tubercle, as Laennec would have it, while it may be admitted that their presence in certain habits induces to true tubercular deposit. These miliary bodies have been found, both solitary and aggregated, in the intestines of persons who had died of phthisis, as also in other situations, viz., on the pleura, pia mater, &c., which would seem

(*a*) *Laennec, de l'Auscultation Médiate.* (*b*) *Recherches sur la Phthisie.*
(*c*) *Exam. des Dict. Méd.* 1816.

to favour the opinion of their having some relation with true tuberculization; but that they are not necessarily connected with scrofulous tubercles is evident from the following reasons:—1. In organs where tubercles are found in all stages there may not be a trace of them (even in "acute tuberculation," where time could not have elapsed to allow of their transformation). 2. If present, being but feebly organized, they are likely to be attacked with scrofulous inflammation, and thus undergo tubercular transformation.

Besides the bodies to which we have been now referring, Laennec described another epigenesis as a primary stage of scrofulous tubercle, i. e., the "jelly-like infiltration;" but Professor Henderson(*a*) has shewn that this matter has no connexion with scrofulous tuberculization, consisting, as it does for the most part, of epithelial cells and mucus.

The yellowish gray and opaque or true scrofulous tubercle may accidentally be deposited along with the inflammation just alluded to, or may even originate in the grey hepatization of pneumonia, which affection, indeed, is described by Louis as the grey *infiltration*, and considered (though erroneously) as a stage which would necessarily terminate in the deposition of the scrofulous tubercle. Later investigations, particularly those of Dr. Carswell(*b*), sufficiently establish the fact that true tubercle may be deposited *as such*, and quite independent of any of the morbid processes mentioned.

Laennec supposed that tubercles were in some way endowed with independent vitality, and that his miliary bodies became crude by appropriating some ingredients from the blood by way of nutrition, and that they enlarged by internal addition, i. e. *intusception.*

Andral denied that tubercles enlarged by intusception, but contended that they extended by *juxta-position*, from the fact of their being unorganized. More recent observation has confirmed the latter view.

The *changes* occurring in tubercular matter may be advantageously considered under the following heads: 1. Retrocession; 2. Advance.

1. *Retrocession.*—Tubercle does not necessarily advance to a stage of softening, as has been frequently asserted by some pathologists, but occasionally becomes converted in its early stage into a pulpy or pultaceous matter, or into a substance having the appearance of chalk; the latter is only an advanced stage of the former. These remains of tubercle are generally found encysted, the cyst consisting always of organized fibrous tissue, by which provision they are prevented doing further injury to the surrounding textures. In the bronchial and mesenteric glands tubercular matter frequently undergoes these changes.

Other opinions, however, have been held with respect to these cretaceous remains. Albus and Kolk(*c*) suppose the whole tubercle

(*a*) See North of England Medical Journal, 1842.
(*b*) *Patholog. Anatom.* fascic. i.
(*c*) *Observationes Anat. Patholog.* fascic. i. p. 35, *et seq.*

to become absorbed, and this earthy matter to be deposited in its site; Reynard, that in the case of the lungs the tubercular matter becomes expectorated, and this substance deposited in their cyst. This view, however, must be erroneous, since it has been frequently found in situations from which no expectoration could occur.

This putty-like matter has been shewn by Carswell to be the only remains of what had undoubtedly existed as tubercles; and it may not be out of place to quote from Dr. Alison, who made the subject of tubercle a matter of particular investigation, and whose authority on any subject of pathology is entitled to considerable weight. He says, speaking of the changes some tubercles undergo: "They gradually harden into cartilaginous and then into earthy concretions, and remain in an inert state for a very long time."(*a*) This is an important practical fact, and shall fall under consideration in a future part of this article.

Small bodies of an *osseous* nature are occasionally found imbedded in the lungs, and are not unfrequently expectorated during life, but which have seemed to us to have been formed from the miliary bodies of Laennec, and not the result of any change occurring in the opaque, granular tubercle.

A very important question arises in connexion with the retrocession of tubercle, i. e. as to the possibility of its absorption.

Very considerable changes may, and frequently do, occur in the composition of tubercle after its deposition, but a true knowledge of its pathology is opposed to the opinion which makes this product capable of being absorbed as such.

Dr. Stokes does not at all touch upon the question of the absorption of tubercle. Dr. Alison, however, admits the possibility of this occurrence. The former gives a remarkable case of "the alternation of scrofulous action between the neck and the upper portion of the right lung," in a boy aged twelve years, who, after recovery from a succession of eruptive fevers, by which he was greatly reduced, became suddenly affected with glandular swellings on the right side of the neck. These increased rapidly to a certain point, but subsequently disappeared in about a fortnight, when he was attacked with a violent cough, with difficulty and acceleration of pulse. Both sides of the chest sounded perfectly well, but while the respiration was sound over the left lung and lower half of the right, it was totally absent over the whole right upper lobe. As the pulmonic symptoms were removed, the lymphatic swellings reappeared, and in less than a week had attained their former magnitude, the chest being completely relieved(*b*).

2. *Advance.*—Laennec promulgated the doctrine that tubercles always underwent a process of softening commencing from the centre; but the opinion of later pathologists, and the views advocated in this article, are adverse to the universality of the truth of this occur-

(*a*) Outlines of Pathology, p. 187.

(*b*) The Diagnosis and Treatment of Diseases of the Chest, by W. Stokes, M. D., pp. 395, 396.

rence. Andral makes the softening most generally commence at the exterior, conceiving that the process depends upon the disuniting and separating of its particles by pus, effused in consequence of the presence of the tubercular matter as a foreign body.

Kolk(*a*) and Lombard(*b*) state that the softening may commence at any part of the tubercle, which is more probably the fact, for the reason that the inflammation and suppuration might attack any part of the areola of cellular tissue included in or surrounding the morbid matter. It may be stated here that Stark was the first who proved the non-vascularity of tubercle, a fact admitted by Andral, Carswell, and Alison. Kingston conceived that he had succeeded in injecting tubercles, but his description shews that his experiments were made upon the miliary bodies of Laennec, and not upon the true scrofulous tubercle ; and even if the latter admitted the injection, it would not prove their own vascularity, but rather that such vessels belonged to the cellular tissue, in the meshes of which they were deposited.

Dr. Carswell has demonstrated that the morbid product under consideration is secreted on the *free* surface of mucous membranes; and when this occurs into the vesicles and minute bronchi, the deposit at first only occupies their inner surface, so that a space in the centre exists, into which the fluid moisture of the bronchi gravitates, which gives the tubercle a soft appearance in the centre, when examined at this stage; if, however, they become completely filled up, there can exist no softening, as the term is, in the centre, which now forms the stage of *crudity* of former writers. The tubercular matter continues to increase in amount, until irritation and ulceration ensue, and in this way softening will be found to have taken place toward the exterior of the tubercle(*c*).

The period at which the latter kind of softening takes place depends upon the acuteness of action. Louis conceived that it occurred in from two to forty days in acute cases; Home from fourteen to sixteen. In chronic cases it may not occur for months, or even for years, in which cases it generally takes place in detached masses, whereas in acute cases the softening involves the whole of what has been deposited. In the former case, or where there is softening of masses, the irritation caused by the pressure leads to the free formation of pus, and ultimately to a *breach of continuity* in the surrounding parts, by which means the tubercular matter frequently escapes into a neighbouring bronchial tube. These *cavities* extend by

(*a*) Op. cit. (*b*) *Essai sur les Tubercles.*

(*c*) M. Lebert makes the softening depend upon the liquefaction of the transparent hyaline mass, in which the granular matter is embedded,—an assertion deserving of attention, as it is that of a gentleman who has studied this department of science with much care and success. See his excellent work, "*Physiologie Pathologique, ou Recherches Cliniques, experimentales, et microscopiques, sur l'Inflammation, la Tuberculisation, les Tumeurs, &c.*"—Paris, 1845.

the adjacent sound parts of the lung, degenerating and breaking down. Before any fistulous communication has taken place they may be distinguished from common abscesses by having no pyogenic membrane lining their inner surface.

Cavities, the result of the breaking down of tuberculated lung, present some peculiarities. Sometimes many small ones open into each other, when they have been called "anfractuous cavities," and are formed by a gradual tuberculization and breaking down of adjoining and successive portions of the lung. This continuous line of excavation has been known to extend from one extremity of the lung to the other (Laennec).

Bands or *bridles* are occasionally found traversing these cavities, and have been mistaken for vessels. Bayle seems to have fallen into this error. They sometimes *contain* vessels, though rarely. Laennec says: "In the few cases where I have found blood-vessels in these bands, they constituted only a small portion of their mass, and were for the most part obliterated."—*Trans.* p. 284. Louis met with five cases where vessels existed in these bands. In the winter of 1841 I met with with an instance in the dissecting room, in which the band was traversed from either extremity by a vessel of considerable diameter. I have also known a phthisical patient dying suddenly of hæmorrhage from the lungs, and on examination after death, a band extending across a cavity of about the size of a hen's egg had broken across, and on a careful examination it was found that it had contained a considerable-sized blood-vessel, which had probably been the source of the hæmorrhage.

Tubercular cavities are seldom larger than an orange, and are most frequently situated in the upper and back part of the lungs. It is seldom that only one cavity exists, so seldom indeed, that the pathologist would suspect its real tubercular nature. It is true that very frequently we can only diagnose one before, but on examination of the lung after death several are found to exist.

It is the opinion of some, that the membrane lining these cavities secretes the pus expectorated so largely at this period; but the irritated bronchial tubes must afford a part of this secretion. It occasionally happens that bloody expectoration accompanies the existence of a cavity, when it may be inferred that the adventitious membrane has not been formed, and that the raw texture of the lung is the source of the hæmorrhage.

The vessels around the site of tubercular deposits are for the most part obliterated. (Stark, Guillot).

Several other *conditions* accompany the advance of tuberculization of the lung, as *adhesions* of the pleural surfaces, near the site of the foreign deposit. Van der Kolk found injection pass from the vessels of the lung through these adhesions, which explains the fact of the circulation going on to a certain extent in phthisical subjects, independent of the healthy action of the lung, part of the blood getting thus at once into the systemic vessels. A very important practical deduction

may be drawn from the foregoing condition, i. e. as to the utility of local depletion and counter-irritation, for these measures now act directly upon the diseased portion of lung. These adhesions are known to occur at a very early period of this disease; and not only this, but the muscles external to them become peculiarly irritable, a condition which the practical physician recognises among the number of his diagnostic signs(*a*).

Pleuritic *effusions* are also found as accompanying conditions, but only in the advanced stage. They have been found in one-eightieth of all cases. *Pneumothorax* is not common. Home found six in one hundred cases. It seems singular that, in cases of phthisis, this complication should be found more frequently on the left than on the right side of the chest. In eight cases Louis found seven on the left. Reynard collected forty cases, and in twenty-nine the pneumothorax was on the left side.

Chronic pneumonia almost always surrounds tubercular cavities, causing induration of the adjacent portions of the lung: the acute form is a rarer complication.

Seat of Tubercle.—The cellular tissue has generally been considered the peculiar site of this morbid product, but since it has been shewn that it is deposited by way of secretion, the mucous tissue, if entering into the composition of the organ affected, is, we are convinced from repeated investigations, in the case of the lungs, as Dr. Carswell says, "in general, either the exclusive seat of this morbid product, or is far more strongly affected with it than any of the tissues of the same organ."

The matter has been found in the air vesicles and minute bronchial tubes, by Lebert(*b*), Nicolucci(*c*), and Mr. Rainey(*d*); and in more than one instance, we have satisfied ourselves of its presence in the pulmonary cells, when we could not discover any trace of the deposit in the cellular tissue of the lungs.

Numberless proofs have occurred to substantiate the truth of this view; thus tubercular matter has been found secreted from the mucous lining of the larger bronchial tubes, from that of the intestines, Fallopian tubes, and from that of the ureter by Professor Henderson.

In Cruveilhier's experiments, the globules of mercury injected into the lungs were found surrounded by tuberculous matter(?). This view of the anatomical site of this product, in the instance of the lungs, holds out the possibility, if not a well-grounded hope, of our being able to adopt such measures as may succeed in dislodging the matter from the air-cells, and so effect a cure in some cases; indeed, Sir J. Clarke, impressed with this hope, recommends a pecu-

(*a*) See Stokes on Diseases of the Chest, in a note at p. 398.
(*b*) See *Archives Générales de Méd.* 1845.
(*c*) Muller's *Archives*, Nos. 2 and 3, 1844; *Encyclographie des Sciences Médicales*, 1845.
(*d*) See a paper read at the Med. Chir. Society, March, 1845.

liar treatment in the early stage to procure this end; but how far it may be found successful remains for future experience to disclose.

We cannot rank with those who draw a distinction between the morbid tendency of scrofula and pulmonary tubercle; and we are inclined to think that Dr. Evans(*a*) has not been acquainted with the history of those patients' parents from whose cases he has arrived at this conclusion. Many authors of consequence recognise their identity (Clark, Andral, Canstatt, &c.); but we quote from M. Lugol(*b*) who has made this subject one of particular study: "The identity of scrofula and pulmonary tubercles is, in our opinion, most manifest; they have both an hereditary origin, and are equally general and fatal in the affected family. The two latter characters are in themselves sufficient to establish their identity; but we shall endeavour to render the fact still more evident by demonstrating, first, that scrofula has frequently a tubercular origin; second, that the two ordinarily co-exist in the same family; and third, that all scrofulous subjects have tubercles in the lungs.

"1st. More than half the subjects of scrofula have consumptive progenitors. Scrofulous diseases of all kinds invade a family without the operation of any other cause than the existence of pulmonary tubercles in one of the parents.

"So general is this fact, that in a ward containing eighty-four beds, we have constantly ascertained the existence of consumption in one or other of the parents of more than half the patients; and even this is below the real proportion, for a great many patients are utterly ignorant of the sanitary condition of their families; and in other cases the presence of consumption has been overlooked because it was not accompanied by its more manifest signs.

"2nd. The preceding observations are still further justified by the frequent coincidence of scrofulous diseases and pulmonary consumption in the same family. In scrofulous families children often perish from disease in the lungs; and again, in consumptive families, some of the members are carried of by various forms of scrofulous disease.

"3rd. Scrofulous children, that is, children who are regarded as *scrofulous* and not *tubercular*, are nevertheless as much the subjects of this deposit as those in whom tubercle has concentrated itself in the respiratory organs. The *natural death* of the scrofulous is by consumption; we might say, indeed, that they seldom die in any other way, for, in all forms of scrofula, death rarely takes place until after the invasion of the lung by tubercular deposit."—p. 48.

The microscopical examination of the blood in the tubercular cachexia has hitherto thrown but little additional light on the nature of those changes which may be presumed to have occurred in it previous to the deposit of the matter under consideration. No

(*a*) Lectures on Pulmonary Phthisis, p. 189.

(*b*) Researches on the Causes of Scrofulous Diseases, translated by Dr. Ranking.

alterations are observable in the globules, but we cannot, on that account, set aside the suspicion of the existence of a tubercular plasma in the circulating mass, particularly as these do not play a primary part in the processes of nutrition and secretion. The relations of the component parts of the liquor sanguinis (which is the source from which all the tissues are formed) to each other, are, for the most part, invisible ; and the affinities which lead to the deposition of any heterologous matters are, perhaps, not traceable by the use of this instrument. But if it has not aided us in demonstrating the tubercular plasma in the blood, we owe it much in perfecting what we know concerning the internal nature of this epigenesis.

Nature and Composition.—Addison(*a*) regards tubercles as an accumulation of abnormal epithelial cells, which he considers formed from the colourless corpuscles of the blood. We have elsewhere stated that some tubercles consist entirely of granules; and in cases where tubercular matter is effused from other structures than the mucous, epithelial cells can have no possible connexion with them. Gerber(*b*) makes a distinction between *albuminous* and *fibrinous* tubercle, believing the former to be unorganized, the latter organized. This opinion must be considered very hypothetical until the point is settled as to whether tubercle is or is not organizable. In its early stage a tubercle consists of an amorphous cytoblastema, nearly allied to albumen; and in some cases was found by Schwann(*c*) identical with protein. In a few instances we have obtained similar results with tubercular matter obtained before the process of softening had occurred. After this, other products appear, depending, probably, in some instances, upon the mode of softening; and in others, upon changes occurring in the tubercular plasma itself. Schwann(*d*) has shewn that the phosphorus and sulphur disappear during this process. The salts, which are proper ingredients of tubercle, are, for the most part, those of lime, and they vastly predominate should what we have called *retrocession* occur. M. Lebert(*e*) makes a strange assertion on this point, i. e. that the calcareous salts consist principally of chloride of sodium and sulphate of soda. Now the salts of soda are very soluble, and would dissolve so easily in the fluids of the body, that we cannot imagine their presence in a solid form for the length of time these remains are known to exist.

It is extremely difficult to obtain definite results, as well from the almost impossibility of obtaining the matter perfectly free from the tissues in which it is imbedded, as from the relative amount of its own ingredients, and the frequent admixture of pus.

100 parts of crude tubercle were found (by Thenard) to give

(*a*) Transactions of the Provincial Med. and Surg. Association, vol. ii. p. 287.
(*b*) General Anatomy of Man and the Mammalia. English edit. p. 305.
(*c*) *Physiologische Chemie*, vol. i. p. 197.
(*d*) *Physiologische Chemie*, vol. i. p. 199.
(*e*) Müller's *Archives*, 1844, p. 289.

98·15 parts of animal matter, and 1·85 of muriate of soda, phosphate of lime, and carbonate of lime. A trace of oxide of iron(*a*).

Lassaigne found tubercle of the liver to yield:

Animal matter,	50
Phosphate of lime,	45
Carbonate of lime,	4
Salts soluble in water,	1
	100(*b*)

Parts most frequently affected.—Louis' observations led him to support the principle, that in every case in which tubercles are found in other organs, they exist in the lungs also. Recent investigation, however, has discovered several exceptions to this, particularly in childhood; at which period of life tubercles of the bronchial glands seem to predominate.

A greater number of organs are generally affected in childhood, and cases of insulated tubercle at this period are very rare.

Tubercle of the bronchial glands has proved fatal while still confined to them, as recorded in some of Alison's cases(*c*).

Late authors have seemed to us to have too generally referred the phthisis of children to bronchial tuberculosis, for in almost every case which we have ourselves examined, tubercles were also found in the lung.

The following tables are borrowed from Lombard as to the relative frequency of tubercles in different organs in childhood and in adult age:

I.—In 100 young subjects—

	Cases.
In the lungs in	73
Bronchial glands	87
Mesenteric glands	31
Spleen	25
Kidneys	11
Intestines	9
Nervous centres	9
Cervical ganglia	7
Membranes of brain	6
Pancreas	5
Sub-peritonæal cellular tissue	5
Inguinal glands	3
Cellular tissue beneath the pleura	2
Lumbar glands	1
Submucous tissue of bladder	1
False membrane of pleura	1

(*a*) Andral's Path., vol. i. p. 519, Transl.
(*b*) *Journal de Chimie Médicale, Novembre*, 1831.
(*c*) See Edin. Med. and Surg. Jour., vols. i. and iii.

II.—In 100 adults, lungs not included—

	Cases.
In the intestines in	26
Mesenteric glands	19
Bronchial do.	9
Cervical do.	7
Spleen	6
Lumbar glands	4
Sub-peritonæal cellular tissue	4
Axillary glands	3
Glands of anterior mediastinum	3
Sub-arachnoid cellular tissue	2
Spinal cord	2
False membrane of pleura	2
„ „ of peritonæum	2
Intercostal muscles	2
Ovaries	2
Parietes of gall bladder	1
Liver	1
Cavity of pleura	1
Posterior mediastinum	1
Vertebræ	1
Ribs	1
Omentum	1
Uterus	1
Prostate	1
Sub-mucous tissue of bladder	1
Cerebrum	1
Medulla oblongata	1
Kidneys	1

In examining the preceding tables, the greatest difference is seen to exist as to the bronchial glands of children. Tuberculization of these stand as 87 to 9 as to the adult, or $9\frac{3}{4}$ more frequently.

Out of 152 cases of adult bodies which Dr. Cless(*a*) examined, eight only were found with tubercles in the bronchial gland.

Since the publishing of the above tables, various pathologists have added to our knowledge as to the tuberculization of particular organs, while they have for the most part confirmed the accuracy of these so far as they go. Dr. Green has drawn our attention particularly to the subject of tuberculization within the head, though I am not aware if that gentleman has commemorated any case where the deposit was confined to the brain or its membranes.

Barthez(*b*) and Billiet relate two cases of isolated tuberculosis of the brain, and one of the arachnoid.

Some authors affirm that *hydrocephalus acutus* is invariably connected with that state of the arachnoid which has been *called* tuber-

(*a*) Schmidt's *Jahrbücher*, 1845.
(*b*) *Traitè Clinique et Pratique des Maladies des Enfans.*

culosis; but so far as our own observation has extended, we are not warranted in assenting to this opinion. We apprehend, also, that tubercular disease of the mesenteric glands is not so frequent as is generally supposed; and that the enlarged abdomens of certain children are not always connected with glandular degeneration. In two instances under our own observation, the children were supposed to have died from *mesenteric disease*, but on examination no such affection of those glands was found to exist.

Tubercles in the liver and spleen are rare in the adult, at least in this country, and are not recorded by any writer that we are aware of, as being ever isolated in either of these organs.

I am led to believe that tubercle is more frequently deposited in the spleen in tropical climates than in the colder latitudes, if I may be permitted to draw a conclusion from the few cases which have fallen under my own observation in India for the last two years. Of twenty-eight persons dying of consumption, I found this deposit in the spleen in nine cases; and in two other instances of patients dying of remittent fever, the spleen was the seat of tuberculosis; but in all of these cases other organs were also affected, and some of them much more extensively than the spleen.

In Lombard's table of young subjects, the pancreas is mentioned as having been the seat of tubercular deposit five times; Rokitansky, on the contrary, is of opinion that this matter is never deposited in this gland, nor in the salivary or mammary glands, nor thyroid body.

The false membranes of pleuritis are sometimes converted into tubercle. Drawings, illustrative of this very rare pathological condition (taken from cases) have, from time to time, been exhibited at the Dublin Pathological Society, by Dr. Stokes, and other distinguished members of that body; and several important facts, relative to the tuberculization of particular parts, will be found scattered through the Dublin Journal, especially some by O'Ferrall, Graves, and Law.

Tubercle is rare in the *fœtus:* Orfila and West have met with it, and a few cases are mentioned in Lloyd's book on scrofula. Husson and Chaussier also detail some instances. Dr. E. Kennedy, in the winter of 1839, exhibited to the Dublin Pathological Society the lung of a fœtus which had never breathed, containing great numbers of tubercles, both in the crude and softened state. It is rare during the first few months of life, and continues comparatively so up to the fourth year.

Lombard, in an investigation as to the frequency of tubercles during the first few years of life, at the "Hospital des Enfans Malades," obtained the following results:

In those children which died from one to two years, tubercles were found in one-eighth of *all;* two to three, in two-sevenths; three to four, in four-sevenths; four to five, in three-fourths.

Before puberty they become less common; after it more frequent; and so up to 40, though at this period not so common as between 4

and 5. It is still a popular error that the age of puberty is much the subject of tubercle, but all statistics prove the contrary. Andral has shewn that the male and female are differently affected as to frequency between puberty and the age of 40; that the former is more subject to this deposit, between the twenty-first and twenty-eighth year, while in the latter the greater frequency exists between puberty and twenty.

Tubercular diseases are not rare after 40.

As a general statement, it may be said that the female is more subject to tuberculosis than the male.

In the returns of this disease from Paris, an apparent exception exists, but the discrepancy may be accounted for by the fact that only one portion of the community was returned in these statistics.

Origin of Tubercle.—The occurrence of most diseases is in general to be referred to two classes of causes,—the remote or predisposing, and the exciting, or those which more immediately tend to their development. It is so in the case before us, and hence it is that to the truly practical physician those which induce the tubercular predisposition or cachexia are of paramount importance, with those which act more directly in causing the secretion of this abnormal deposit. Each have their share in the occurrence *at a particular period*, and it is well remarked by Sir J. Clark, that "when the person is little exposed to the exciting causes, the constitutional predisposition may be long present without any local affection, while continued exposure to exciting causes may determine the local disease when the morbid state of the constitution exists in a slight degree."

Illustrations of the truth of this are afforded every day from the different classes of society and trades, according as the individuals are placed in circumstances which have direct tendencies in causing the deposit, or in such as are calculated to counteract its formation.

There are authors, and some of no mean repute,—M. Lugol(*a*), for instance,—who deny that tuberculosis is ever induced by previously diseased states, and that the frequent occurrence of tubercular diseases after attacks of measles, scarlatina, &c., is referable to any pathological condition of system which has been induced by the latter diseases; and state that this epigenesis is only the manifestation of a previously existing scrofulous diathesis, which the depressing agency of the latter diseases has only called into activity. Bouchut, on the contrary, believes that some diseases (and particularly measles) have a direct and natural tendency to induce the tubercular diathesis; and in his late work on diseases of children has very accurately studied the supposed connexion between this diathesis and previously existing diseases. The views of the latter writer are in accordance with those of the majority of pathologists in this country.

In the strictly *pathological* discussion of this product we are not permitted to pursue this interesting question at more length in this

(*a*) On the Causes of Scrofulous Diseases, translated by Dr. Ranking.

place, but it will be found amply considered in the various practical works of the day; and several valuable communications have lately been made to some of the periodicals, and particularly those concerning the *grinders* of Sheffield in Dr. Cormac's London and Edinburgh Monthly Journal. One point, however, requires notice, i. e., as to whether or not tubercle is the result of an *inflammatory* action. On no subject of pathology has there been so much disputation as on this, and the names of the most accurate observers are still arrayed against each other. Laennec opposed the inflammatory theory, stating that it was impossible for its advocates to conclude that the pneumonia was the cause of the tuberculization, rather than that the tubercles, acting as mechanical irritants, had produced the pneumonia. He argued also that morbid anatomy did not always discover traces of inflammatory action in persons who died of phthisis, and was of opinion that, when they were found co-existing, the tuberculization had preceded the inflammation in nineteen out of twenty cases. He adduced also, on this side of the question, the case of the scrofulous glands, in which he conceived tubercular matter might be deposited unaccompanied by any mark of inflammation. It may be remarked in passing, that it must be considered doubtful how much the enlargement of these glands in scrofula really depends upon the deposition of true tubercular matter.

Carswell has supported the negative side of the question with some ingenuity. He commences by stating that inflammation is not necessarily followed by the formation of tubercular matter, inasmuch as we do not meet with that deposit in organs after death which had been so affected; but it must be remembered that pus and lymph, which are the undoubted results of inflammation, do not necessarily *always* follow that action. He then states that tubercles are found in organs, the functions of which had not been observed to be deranged during life; but the same may be said of many slow, insidious inflammations which give rise to no symptoms to make them apparent during life. He farther ingeniously remarks, that "effect and cause are inseparable under similar conditions," but he here overlooks the important fact, that the effects of inflammation vary with the tissue affected and with the peculiarity of constitution; and that the inflammation which would lead to the formation of pus and lymph in one, may produce tubercular deposition in another of a different constitution. The inflammation which occurs in a scrofulous habit cannot be considered under "similar conditions" to that in a healthy one, and therefore we have no right to expect "the product to be always the same."

Dr. Baron, of Gloucester, says: "Tubercles are not the product of any species of inflammation, though it may attend their growth and modify the symptoms which they occasion." His views were founded on a very erroneous theory of the pathology of this epigenesis, for he conceived tubercles to be hydatids,—a theory which a correct knowledge of natural history sufficiently refutes. There were other notions held by this gentleman respecting tubercle which

I have not thought necessary to allude to, because they are not now supported by any pathologist, and we leave them in that oblivion to which more scientific investigation has consigned them. Other negative arguments have been advanced, founded upon the seat of tubercle in the lung, and upon other dissimilarities between pneumonia and tuberculization. The upper lobes are most frequently affected with tubercle, the lower with pneumonia,—*at least in adults;* but the inflammatory action may be distinct, so far as not occurring under similar conditions ; and though pneumonia be a distinct and peculiar *disease*, it does not prove that tuberculization occurs independent of inflammatory action, as that may not amount to what is nosologically denominated pneumonia.

No one in so unqualified terms advocated the inflammatory origin of tubercle as Broussais(*a*) ; and certainly some of the cases he adduces are very plausible, though it is presumed he made the most of them to meet his favourite theory. The circumstances and situations of the soldiers he refers to may have been such as first to have induced the scrofulous diathesis, for there is no other pathologist who maintains that tubercle is ever deposited from a *purely* inflammatory action. Andral's *present* opinion is given in these words : " If the disposition to the formation of the new deposit is very strong, then slight local congestion of blood is sufficient to give occasion to it ; wherever such congestion takes place the same product appears, or what is called the tubercular diathesis is produced. If this disposition is less strong, it is requisite for the formation of a tubercle that the congestion should be so considerable and so permanent as to amount to inflammation. But where there exists no such predisposition the most intense and longest continued inflammation will not produce a tubercle."

Dr. Alison(*b*) has very elaborately defended the inflammatory origin of this product, and has formed his conclusions both from cases under his own observation and from the experiments of others. His cases are arranged under two heads : first, those in which death was not caused immediately by tubercles, but in which they were found, on dissection, " so directly succeeding to the symptoms, and so closely connected with, or even passing by insensible degrees into the undeniable effects of inflammation," that he could not otherwise conclude than that their formation had been dependent upon it. The second class of cases consisted of those which had been seized with inflammatory symptoms, while apparently in good health, from some known adequate cause, which, subsiding slowly, ended in phthisis and death, but with little or no other appearance which could be considered either as the effect of inflammation *known to have existed*, or the cause of death.

He also adduces the experiments of Kay, which were similar to those instituted by Cruveilhier, and attended with the same results.

(*a*) *Examen. des Doct. Med.* 1816.
(*b*) Edinburgh Med. and Surg. Transactions, vols. i. ii. and iii.

The positive side of the question is maintained also by writers of recent date,—Bennet(*a*), Evans(*b*), and Sibson(*c*).

Nicolucci(*d*), Lebert(*e*), and Mr. Rainey(*f*), particularly, have very lately arrayed themselves in opposition ; the latter forming his opinion upon a minute and careful examination of the capillaries surrounding a mass of tubercular matter, which, he states, have a comparatively healthy appearance, as compared with those which have been engaged in the process of decided inflammation. The oft-appealed-to experiments of Cruveilhier, too, turn out to be fallacious, as Hasse(*g*) has proved that the substance surrounding the globules of mercury, which was supposed to be tubercular matter, was nothing more than a mixture of the exudation and pus globules.

Minute or microscopical research therefore is subversive of what we would otherwise infer from the history of this abnormal deposit.

For ourselves, we have long thought that authors have been hunting after a shadow, in endeavouring to settle the point in question. Believing as we do that tubercular matter exists in the blood of the scrofulous, in the form of a *tubercular plasma*, we are of opinion that it may be exuded in that condition of the capillaries in which, under other circumstances, fibrine would be effused. If the latter state be called inflammation, and it is only an excited state of nutrition,—then in the case of tubercular effusion the inflammation is a peculiar and abnormal one, and the product is also abnormal.

Curability of tubercular Disease.—The question of the curability of phthisis is one of very great importance, because of the immense mortality from this disease among the inhabitants of these islands. In early times, when *consumption* was considered simply as the result of a chronic inflammation and suppuration of the tissue of the lung, the affection was looked upon as curable, if met in proper time by suitable treatment. As the true nature of tubercle and its consequences became better understood, this opinion was relinquished and the very opposite substituted.

Broussais considered the disease curable, an opinion not contradictory to his view of the pathology of the deposit. Bayle was especially opposed to its curability in the early stage, though he admitted the disease might be prolonged for a very long time without proving fatal. Laennec was the first to announce, on *pathological* grounds, that tubercular cavities of the lung were susceptible of cure, i. e., by a process similar to that by which certain abscesses and other breaches of continuity cicatrize. The cases on which he founded the belief were those in which all the signs of tubercular deposit, and those which indicated the existence of a cavity, were present, and from which the patient recovered ; and after death a *cicatrix*

(*a*) Edinb. Med. and Surg. Jour. 1845. (*b*) Op. cit.
(*c*) Transactions of Provincial Medical Association, April, 1845.
(*d*) Op. cit. (*e*) Op. cit.
(*f*) Papers read before the Medico-Chirurgical Society, March 25, 1845.
(*g*) Anatomical Description of the Diseases of the Organs of Circulation and Respiration, translated by W. E. Swaine, M. D., p. 328.

was found in the part of the lung corresponding to the situation in which the cavity was known to have existed.

Andral's observations were confirmatory of those of the distinguished pathologist now quoted, and he has recorded in his *Clinique Medicale* (tom. iii. p. 382) eight cases affording similar evidence. The process consists in the inner surface of the cavity, from which the tubercular matter has been evacuated by expectoration, taking on a more healthy action, and becoming lined with an adventitious layer of organized lymph, which assumes the character of a mucous membrane, and becomes continuous with the lining membrane of the bronchi, into which the ulceration had previously extended. In process of time this new membrane takes on other characters by passing into fibrous or fibro-cartilaginous tissue, which, possessing as it does, contractile properties, draws with it the adjacent parts of the lung, and contracts upon the excavation till its walls oppose and unite, when nothing remains to indicate the original tubercular deposit, but a linear or otherwise shaped cicatrix, surrounded by some puckering of the tissue of the lung.

We do not assert that every deposit of organized lymph met with in the lungs is the result of the healing up of a tubercular cavity, but those found in situations obnoxious to tubercular deposit, and in lungs where tubercles exist in different stages of advance, may fairly be presumed to have originated in this way. Occasionally, too, traces of tubercular matter are still found within these cicatrices.

It must be admitted, however, that, while there can be no doubt of the healing up of tubercular excavations in some instances, a permanent cure is but seldom obtained to the sufferer in this way, in consequence of the almost general coexistence of more extensive tuberculization ; and when this desirable termination does result, it requires that the pathological condition of the system, on which the effusion of tubercle depends (i. e., that those affinities of the blood through which this abnormal plasma is formed), should not predominate over the healthy.

Boudet(*a*) has recorded that he met with fourteen cases within the space of one year, in which all the evidences of softening and of the presence of a cavern were present, which ultimately completely disappeared. Dr. Williams(*b*) mentions the fact as *sometimes* occurring.

A second mode of cure, which is presumed to occur at an earlier stage of the disease, requires notice, and it is not incompatible with our convictions respecting the pathology of this product. Every person in the habit of attending *post mortems*, and making the lungs objects of special examination, has been struck with the great frequency of calcareous concretions in these organs, and particularly in those parts which are known to be most obnox-

(*a*) *Comptes Rendus*, tom. vi. 1843.
(*b*) Diseases of the Chest, 4th edit. p. 192.

ious to tubercular deposition; and observers are unanimous in the belief that these are the remains of what undoubtedly existed as tubercular matter. The process seems to consist in the absorption of the animal matter which enters into the composition of the tubercle, leaving the earthy ingredients; for no pathologist has ever demonstrated the absorption of tubercle as such. Let the explanation be as it may, there can exist no doubt of phthisis undergoing a spontaneous cure in this way. Carswell has found these remains not only in the lungs but in the bronchial and mesenteric glands, and in those of the neck.

Dr. Bennet endeavours to prove that the cure of phthisis in the way here mentioned is a more frequent occurrence than is generally thought; and in a communication to the Edinburgh Medical and Surgical Journal(*a*) he supports that opinion from statistical data of cases examined by himself and others, which need not be recapitulated in this place, in many of which the existence of tubercle had not been suspected during life; and if this happy termination is as frequent a spontaneous occurrence as this gentleman would represent, the fact will inspire us with fresh hope and new expectations. During a period of six months, while acting as pathological assistant in the Edinburgh University, I noticed the presence of these cretaceous remains in the lungs of nine individuals who had died in the Royal Infirmary of other diseases.

I have no doubt that this mode of cure would occasionally be brought about by a judicious management of the patient at an early stage of the disease, i. e. by preventing or avoiding all those causes which tend to irritate the seat of the deposit, such as changes of temperature, hurried exercise; and, again, by avoiding those which remotely dispose to that condition of system which is of primary importance in the production of this deposit; and I am equally confident that removal to certain climates has been followed by this result. During a residence of some time at Malta, I had several opportunities of examining the point in question in persons who had been recommended to that island for the mildness of its winter and the salubrity of its climate, and am almost certain that in more than one instance the change in question, or a process equally salutary, must have taken place from the improvement of the health, and the disappearance of certain symptoms. I have the notes of the case of one gentleman in particular, who arrived in that place in the latter part of 1844. Before leaving England he had been obliged to give up his avocation as a clergyman, on account of repeated attacks of severe hæmoptysis, cough, dyspnœa, and night-sweats. On his arrival at Malta these symptoms were not much abated; and on examining the chest, all the signs indicative of tubercular deposition at the top of the right lung were present. The dulness on percussion extended from beneath the clavicle to the edge of the fourth rib. The resonance of the voice was dis-

(*a*) April, 1845, p. 406, *et seq.*

tinctly increased as compared with the opposite side; and the sounds of the heart were transmitted to the ear with increased intensity. There was a slight mucous rale in the region of the deposit. The same signs were perceptible in the supraspinous space of the same side. He remained in the island for about eighteen months; the attacks of hæmoptysis did not return, the night-sweats and dyspnœa soon disappeared, and after a residence of two months the cough was not complained of; the general health was very much improved, the appetite increased, and the power of active exercise without fatigue returned. The stethoscopic signs, however, continued almost the same; the dulness only extended as low as the *third* rib; the mucous rale was not so generally heard, but the other symptoms remained the same. He continued in this way, as we have intimated, for a period of upwards of a year, when he returned to England, and has since resumed the duties of his calling, which he has been discharging for some months, apparently with as much ease as if there was nothing the matter with the lungs.

My friend, Dr. Galland, has informed me, that he has frequently noticed the disappearance of all the symptoms of tubercular deposit (by this I do not mean incipient phthisis), with the exception of slight dulness on percussion over the original seat of disease, and a heightened vocal resonance; and that he has known these continue for years, and the patient apparently in the enjoyment of the most perfect health. I may return to this topic in another place at a future time.

These cretaceous or puttaceous remains are generally found encysted.

A third mode of cure rests upon the possibility of the expectoration of tubercle without any ulceration of the tissue of the lung, or the formation of any accidental tissue. This possibility Dr. Carswell founds upon the fact of tubercle being secreted on the free surface of mucous membranes. In the case of some of these the matter is easily and speedily removed, as from that of the intestines, while the structure of others (the pulmonary, for instance) is favourable to its retention; and, indeed, it must be considered very doubtful if a cure is ever effected in this way in the case of the respiratory organs, though it is with hopes founded upon this doctrine, that Sir J. Clark so strongly recommends the employment of emetics in the early stage of phthisis,—a practice which he considers "one of the most efficient means in preventing the localization of tuberculous disease."

It would seem, at all events, that this disease is not necessarily of so fatal a nature as is generally believed, since spontaneous cures do occasionally occur; and it will be in studying how nature, in some instances, wards off the fatal issue, that we may hope to arrive at a more rational and a more successful treatment than the dictates of a blind empiricism have hitherto devised.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

1. *Caries of the superior cervical Vertebræ; Destruction of the Body of the Axis; Paraplegia, and Retention of Urine.*—Dr. Lees presented a recent specimen of disease of the upper cervical vertebræ, taken from the body of a man æt. 35, admitted into the Meath Hospital on the 5th of March, 1845, with pains in all his bones, or, as he described it, "all over him." He stated, that eight months previously to his admission he had been salivated by mercury for a venereal complaint; that soon afterwards he had accidentally fallen into a river, and that the pains from which he was now suffering had set in three months subsequently. He was not emaciated; the disease was considered to be syphilitic rheumatism, and he was directed to be treated with sarsaparilla and iodide of potassium. On the 8th he was observed to be very restless; his pulse was very quick, his respiration a little hurried, and he complained much of the pains in his chest, abdomen, and legs. On examination of the abdomen, Dr. Lees now discovered a tumour in the hepatic region, with tenderness to deep pressure applied in that situation, and which, he thought, was probably indicative of a subacute supervening on a chronic hepatitis. On the 9th the patient was much worse; in addition to his former symptoms, he had now paralysis of the lower extremities, and complete retention of urine. The urine, when drawn off, was very turbid, loaded with the lithates, and had an acid reaction. The patient, on sitting up, supported his head with both hands; and he now mentioned that during the previous night he had a sensation of something giving way, or cracking, in his neck, and he felt pain in the place to which he referred this sensation. The back of the neck being carefully explored, a hard tumour, painful on pressure, was detected at the upper cervical vertebra, close to the occipital articulation. In the pharynx no ulceration could be discovered, but only a patch of green mucus on it. A consultation was held with Messrs. Porter and Smyly, who agreed that the case was one of caries of the cervical vertebra. There was no paralytic affection of the upper extremities. On the night of Thursday the 13th inst. the patient vomited, after which he again lay down in bed; and in the morning, at six o'clock, it was found that he had died quietly during the night.

A complete *post mortem* examination could not be made, as the friends of the deceased insisted on removing the body a few hours after death on the same morning, but the cervical vertebræ were examined, and the parts obtained, which Dr. Lees now produced. The second vertebra was enlarged, and this had caused the prominence felt at the back of the neck. Mr. Ledwich, who made the exami-

nation, observed that the periosteum, on its spinous process, was thickened, and very vascular. The odontoid process still preserved its natural relation to the atlas, but the body of the axis itself had disappeared, its right articulating process alone being visible anteriorly, and a mass of grumous matter occupying the situation of the bone which had been destroyed. On laying open the vertebral canal, the dura mater of the theca vertebralis was observed to be very vascular, as was also the pia mater of the medulla spinalis itself; the redness, in both cases, was shewn to be persistent after washing. These appearances Dr. Lees demonstrated on the posterior aspect, and he then proceeded to point out the condition of the medulla spinalis: it appeared in this place to be softened in some degree, as compared with the lower portion of its course in the cervical region, but there was no trace of any pressure having been made on it. Dr. Lees having also pointed out the remarkable lesion already described on the anterior aspect of the vertebræ, remarked that this destruction of the bone could not be very recent, yet the patient had been walking about up to his admission into the hospital, only nine days before his death; he had, indeed, mentioned, that a month previously to his admission a similar tumour had formed at the back of his neck, and that matter had been discharged from it, but no trace of this could be discovered, nor was there any cicatrix in that situation. It was to be regretted, that, from the hurried manner of the examination, there was no opportunity of inspecting the condition of the brain.

Dr. Lees was of opinion that the immediate cause of death in this case was the displacement of the vertebræ in some sudden motion of the patient. He directed attention to the remarkable circumstance of there having been no paralysis of the upper extremities, while there was, on the contrary, complete paraplegia, with retention of urine, neither of which is usually referred to a lesion of the medulla spinalis in the cervical region. Sir B. Brodie, in a lecture at St. George's Hospital last year [1844], has referred to a paper by Dr. Baillie, in the Transactions of the Royal College of Physicians, London, in which that eminent pathologist connects paraplegia with cerebral disease. Paraplegia has been often observed to be accompanied by cerebral symptoms. The late Dr. A. Colles (in his Practical Observations on the Venereal Disease, p. 139) has given the case of a gentleman labouring under secondary syphilis, with an ulcer at the back of the pharynx, who coughed up a piece of bone, which, "on examination, proved to be a ring of the first vertebra, with on one side the half, and on the other one-third, of the articulating processes," which had become carious, and was discharged through the ulcer, yet he recovered, and survived six years, during which he married and had children. On the authority of that case we may therefore conclude that this lesion is not so absolutely incurable, so necessarily fatal, as *a priori* might be supposed.—15*th March*, 1845.

2. *Ramollissement of the Inferior Portion of the Medulla Spinalis, Pa-*

raplegia, Retention of Urine, Inflammation of Bladder and Kidney.—Dr. Hutton presented a preparation and several drawings illustrative of a case of ramollissement of the medulla spinalis. The subject, a man æt. 36, of swarthy complexion, a sailor, was admitted into the Richmond Hospital on the 25th of November, labouring under paraplegia. It appeared that on the 3rd of November he had left Lisbon for Dublin in a ship laden with fruit; that on the 7th a storm arose which continued without intermission for three days, during which he remained on deck, and was subjected to constant cold and wet. On the 11th he was seized with severe pain in the lumbar region; on awaking next morning his lower extremities were quite numb, and he was unable to pass water. There being no surgeon on board, the captain gave him some aperient medicine, but from that time his urine was retained, and he had involuntary discharges of fæces. On the ship's arrival in Dublin he was brought to the Richmond Hospital; he then appeared much exhausted, and his voice feeble; pulse 60; respiration regular; intellect unimpaired. There was a large slough over the trochanter, on which he had been lying, and on his legs there appeared some traces of lupoid ulceration; another slough laid bare the sacrum, and the theca was exposed. His abdomen was swollen, and the figure of the distended bladder, reaching up to the umbilicus, was distinctly perceptible. His lower extremities were paralysed, flaccid, and insensible, and the want of sensation extended up to the umbilicus. The catheter was introduced, and a large quantity of high-coloured ammoniacal urine was drawn off. In four hours afterwards the bladder again became filled, and the operation had to be repeated. After three or four days vomiting came on; a little blood was thrown up once; the pulse advanced to 69 or 70, but the respiration was not oppressed until two days before his death, when bronchial rales came on, and he died on the 2nd of December.

The posterior wall of the sacral canal was completely destroyed, so that the theca investing the inferior portion of the cauda equina was exposed. Some sero-sanguineous fluid was discovered within the theca, which gravitated towards the lumbar region, and in quantity amounted to two drachms and a half. The medulla spinalis itself appeared quite healthy on its exterior, but on being divided extensive disease was discovered, extending from the cauda equina up to the fourth or fifth dorsal vertebra; throughout this extent the medulla was softened and disorganized, but the arachnoid and other membranes of the theca were of the natural appearance. Dr. Hutton was of opinion that the disease commenced below, at a point where the disorganization was greatest (about the second lumbar vertebra) and had from that extended upwards. The bladder was enlarged, and exhibited all the effects of intense inflammation; its mucous coat was highly vascular, and in many places had patches of lymph on its surface, on raising which, purulent matter was found beneath; in some parts the mucous surface appeared of a dark green colour; in others there were large spots of ecchymosis. [All these appearances were ex-

pressed in a drawing by Mr. Conolly, which Dr. Hutton now exhibited.] The kidneys were gorged with blood, and their pelves contained urine tinged with blood, of an ammoniacal odour, and mixed with flocculi of lymph. The intestinal tube was not diseased, only some slight increase of vascularity was observed in the duodenum; the stomach was quite healthy, the liver was engorged, and the lungs were free from disease. The brain was not examined, as there had not been any symptom that could be referred to it. The first symptom noticed by the patient was pain in the lumbar region; did this depend on effusion into the theca, or on the ramollissement of the medulla spinalis itself? There was no inflammation of the membranes, but the fluid was increased in amount. Another point of interest in this case was the sudden paralysis. When ramollissement of the medulla spinalis has been the cause of paralysis, it has usually extended gradually; in this case, on the contrary, it became complete in one night. There was here, also, no rigidity of the lower extremities; this corresponds with what some French pathologists have asserted, as to this being a character of cases in which the membranes are not inflamed. The absence of both sensation and motion was also remarkable, taken in connexion with the softened state of the medulla spinalis, the external portion remaining apparently sound. The cases by Messrs. Webster and Stanley, in the Medico-Chirurgical Transactions, vol. xxii., leave the question still dubious as to the functions of the anterior and posterior columns of the spinal marrow, although that of the anterior and posterior roots of the spinal nerve has been ascertained. On the condition of the bladder Dr. Hutton referred to the opinion of those who explain inflammation of this kind by supposing that the retained urine becomes alkaline, and then is capable of irritating the coats of the bladder; in this case the kidneys also were highly congested, and the urine in their pelves was mixed with purulent matter, indicating inflammation of these glands, which Dr. Hutton was inclined to refer, together with that of the bladder and the sloughing of the paralysed extremities, to the lesion of innervation with which the disease commenced.

5. *Endocarditis; Vegetations on the aortic and mitral Valves; Contraction of the left auriculo-ventricular Opening.*—Dr. Corrigan presented recent specimens exemplifying endocarditis. The subject from whom they were obtained, a female, æt 24, had good health up to her accouchement, five months ago, after which she became affected by a sense of constriction in the chest, cough, with difficulty of breathing, and expectoration, which was sometimes bloody: after some time her feet became œdematous, and all her symptoms underwent a considerable aggravation a month before her admission into the Whitworth Hospital, on the 12th of February, 1846. She had then a visible pulsation in the jugular veins, and effusion into the peritonæum had taken place. She died in the hospital on the 22nd of February.

When the body was examined, the lungs were observed to be

free from disease; the left auriculo-ventricular opening was contracted, and there were vegetations of lymph on the mitral valves: on the aortic valves there were similar vegetations.

Dr. Corrigan proceeded to remark on the extent of disease which, we thus learn, may occur within a defined period, in endocarditis; and adverted to Bouilland's opinion, that this disease commences by inflammation of the valves, to which he had referred at several former meetings. [*Vide* Proceedings of 20th and 27th April, 1844, and 12th April, 1845.]—14*th March*, 1846.

4. *Malignant Osteosarcoma at the Base of the Skull.*—Dr. R. W. Smith presented a section of a skull, as a specimen of a disease of the bone, which might be contrasted with that which had been so lately described by Dr. O'Ferrall. An old man, who made no complaint except of uneasiness in the head, deafness in the left ear, and inability to respire freely through the nares, was admitted into the hospital of the South Dublin Union. As polypus of the nose was conjectured, a catheter was introduced into the nostril, which passed freely through the inferior meatus. After he had remained two months, without any variation in his symptoms, he died suddenly of hæmorrhage from the mouth and nares.

On examining the body, there was found in the stomach a quantity of blood which had been swallowed. At the base of the skull was a malignant osteosarcomatous formation, within which was a cavity still enclosing a clot. This malignant structure was a new growth, which had filled the sphenoid sinus and the superior cavities of the nares, and obstructed the Eustachian tube of the left side. The basilar process of the occipital bone was destroyed, as well as the body of the sphenoid, the lower portion of which remained in a softened state: part of the ethmoid bone was also destroyed. The roof of the mouth was softened, but its form was preserved, as frequently happens when the bony palate becomes affected by malignant disease: this circumstance has been observed and described by Dr. R. Adams, in a case of malignant fungus of the antrum. The brain was sound, but the dura mater, at the middle fossa of the base, was beginning to be diseased.

This disease resembles the areolar cancer of bone of Cruveilhier (*Maladies des Os*). In the case which Cruveilhier describes, polypus was suspected, and an operation to extirpate it was attempted by Amusat, who proceeded till he had reached the dura mater, when it was found necessary to desist. The disease of which this is a specimen, is evidently malignant: the cancerous matter appears to be deposited in the diploe, and to cause absorption of the earthy part of the bone. In the specimen the bone is quite soft, and the cancerous fluid exudes from it on pressure.—21*st February*, 1846.

5. *Cartilaginous Degeneration of the Bones of the lower Extremity.*—Dr. O'Ferrall exhibited a recent specimen of a peculiar disease of the tibia, for which the limb had been amputated. The description was illustrated by several coloured drawings of this, and other cases. The subject from whom this was derived was a man æt. 27, a shoe-

maker : when a boy he had fractured his left thigh close to the hip ; it united at an angle ; two years afterwards he again fractured the same limb at a point a few inches lower down ; and he had fractured it twice more before he was twelve years of age. After this he had fractured the tibia of the same side, and subsequently several times fractured the femur and the tibia. He was admitted into St. Vincent's Hospital for his twelfth fracture, which was of the thigh, close to the great trochanter; this was not attended by any unusual circumstance, and union was effected in the usual time. The repeated fractures had, however, produced a state of exceeding deformity in the left lower extremity. [This was shewn in a drawing of this patient, representing his appearance after the union of this last fracture.] The deformity was most remarkable in the leg, which was bent into a curve, the concavity of which looked outwards, and a part of the convexity overlapped the tibia of the opposite side. The inconvenience that this man experienced from the deformed limb in the exercise of his trade was such, that he was anxious for the amputation of the entire, or some portion of it ; but on consultation it was decided not to operate for mere deformity. This patient was anæmic, and had *fremissement* and *bruit musicale* in the usual situation in the neck; chalybeates were exhibited with benefit, and he was discharged from the hospital. After a few months he returned, complaining of pain in the left tibia, at its most projecting part ; this pain was very severe, and, being most intense at night, completely destroyed his rest. On a consultation being now held with Sir Philip Crampton and Dr. Wilmot, it was agreed to amputate; and the operation was accordingly performed a little below the knee, near the head of the tibia, the point which the patient himself was anxious to have selected. During the operation there was a considerable number of vessels requiring to be tied; and in two hours afterwards there was a general oozing from the cut surface of the bone.

Dr. O'Ferrall remarked that the bone of the amputated limb presents appearances unlike those of any specimen of diseased bone which he had hitherto brought under the notice of the Society, and in fact which are quite novel to him. The horizontal section of the bone, parallel to that made by the amputation, exhibits at first view the appearance of a medullary canal surrounded by an elastic yielding material within the shaft; but a longitudinal section shews that this is not the medullary canal, but a short *cul de sac*, the inferior portion of a cavity the upper part of which is contained in the upper portion of the bone. This cavity is lined by a smooth membrane resembling synovial. There is no trace of a medullary canal, nor is there perceptible any vestige of former fractures ; even the points at which they occurred cannot be distinguished. There remains only a thin outer shell of bone, encrusting a material like cartilage, without any spiculæ of bone intermixed with it. It has been examined under the microscope by Dr. Power, who finds it to be a fibro-areolar structure, with a sort of unciform processes in the interspaces, but

neither cells nor nuclei. From these characters it appears distinct from malignant structure, and it differs from osteosarcoma of either the benign or the malignant species. In the malignant osteosarcoma the bone is destroyed at the point of growth of the malignant mass, which grows out from it in the manner of a fungus; but in the present case the limits of the bone have not been transgressed by the morbid structure which is entirely included within it. [Here Dr. O'Ferrall shewed a drawing of an osteosarcomatous tumour in the left thigh of a female; and also a drawing of a section of the diseased bone.] In the benign osteosarcoma also the bone gives way; the growth is in the transverse axis of the bone, but is limited in the longitudinal. [Of this species Dr. O'Ferrall shewed a drawing, representing the left hand with one phalanx of the middle finger affected.] In the present case, the only bone of the foot which was diseased was the os calcis, which was soft, very vascular, and easily cut or broken down; as Dr. O'Ferrall demonstrated by making a section, and compressing it. He thinks it probable that the femur is in a condition similar to that of the tibia. The chance of final recovery depends on whether the disease be malignant or not, but as yet there is no evidence of any constitutional taint, nor is there any appreciable visceral affection. The results of the operation were perfectly satisfactory, and the health of the patient is better than it has been for years, whilst the removal of the limb has been a great advantage to him in working at his trade.—*November* 17, 1846.

During the past winter he fell again and fractured the stump, for which he was re-admitted to St. Vincent's Hospital, under the care of Dr. O'Ferrall. Union took place in about the usual time, and he left the hospital in good health. He was seen a few days ago, when he stated that he was perfectly free from all complaint, and as able to work at his trade as well as ever he had been. His appearance has much improved since the operation, and he has increased in flesh.

MEDICAL MISCELLANY.

Case of Popliteal Aneurism, cured by Compression in four Days. By J. W. Cusack, President of the Royal College of Surgeons. Reported by S. G. Wilmot, F. R. C. S., Resident Surgeon to Steevens's Hospital.

John Brady, aged 30, of stout make, but not very healthy aspect, unmarried, and accustomed to much foot exercise; was admitted into Steevens' Hospital on the 14th April, 1847, under Mr. Cusack. He states that he never had syphilis, never was mercurialized for any disease, and has ever been temperate in his habits and in the use of intoxicating liquors. A pulsating tumour, of a fusiform shape, possessing unequivocally the characters of an aneurism, occupies the right popliteal space. In its long axis the tumour measures three inches; its centre, the broadest portion, extends across from the external to the internal hamstrings. Pressure made on any point of the femoral artery arrests the pulsation in the tumour; a very small amount suffices to accomplish this when exercised upon the vessel as it crosses the pubis. The pulsations are strong, equable, and synchronous with the ventricular systole. No *frémissement* is perceptible to the hand placed over the tumour, nor is any *bruit de soufflet* audible by the stethoscope. The parietes of the aneurismal sac feel solid, and cannot be compressed so as to empty it of its contents. The collateral branches about the knee are very large; one in particular, which crosses the internal condyle, is fully equal in size to the radial artery. The patient scarcely suffers any pain except after walking; even then it is but trifling. The chief inconvenience he complains of as arising from the presence of the tumour is stiffness in flexing the knee, and in walking. Sometimes he complains of coldness and numbness in the foot of the affected limb; to the hand the temperature is sensibly lower than that of the opposite side. There is no appearance of œdema, or congestion of the foot or leg, but he states that after walking the veins become swollen. The tibial and peroneal arteries cannot be satisfactorily felt. Stethoscopic examination discloses no abnormal indications in the region of the heart. Pulse 85, full; urine healthy, and skin cool.

The history which the patient gives of his case is as follows. Two months ago, while walking, he suddenly felt "something give way" in the situation of the right popliteal artery, attended by a throbbing sensation and slight pain. Upon examination of the part he discovered a pulsating tumour, about the size of a pigeon's egg; shortly after, the foot became cold and numb, but this condition did not last long. He applied poultices, liniments, and stupes, to the part, without advantage; and though the swelling gradually increased, the pain and inconvenience he experienced were so trivial

that he followed his usual occupation, which necessitated almost continual walking through the day. A week previously to admission, the stiffness in the knee having increased, he was induced to seek advice at the hospital, when he, for the first time, became aware that he laboured under a very serious disease.

The patient having been placed on ten drops of tincture of digitalis three times in the day, was enjoined to observe the strictest quietude, in the horizontal posture, for a few days. At nine o'clock on the morning of the 22nd April, Reade's pelvic ball and socket apparatus was applied on the patient by Mr. Cusack, and the pad adjusted so as to bear perpendicularly upon the femoral artery, as it passes over the pubis. A degree of pressure was exercised, sufficient only to diminish, without entirely interrupting, the current of blood through the vessel. No congestion of the limb followed the application of this pressure, but shortly afterwards the temperature of the leg and foot fell considerably. The patient was able to bear pressure on the same point for four hours; when it became painful, by regulating the screw which connects the screw-pad with the curved arm of the instrument, the pad was capable of being shifted to a small extent. By thus alternating the pad upon two points, within a range of about one and a half inches, uninterrupted compression of the artery was maintained, and a cure accomplished, without the aid of a second instrument.

On the 24th the tumour had increased greatly in solidity, and the pulsation was scarcely perceptible. Compression was now augmented, so as to remove altogether pulsation from the tumour. He was still able to tolerate pressure on one point for the same period as before, as long as the screw-pad was made to fall perpendicularly to the vessel: in proportion to the accuracy with which this was done, the necessary degree of pressure became decreased, and the pain less. No congestion of the limb resulted from the additional pressure. Health good; pulse 72.

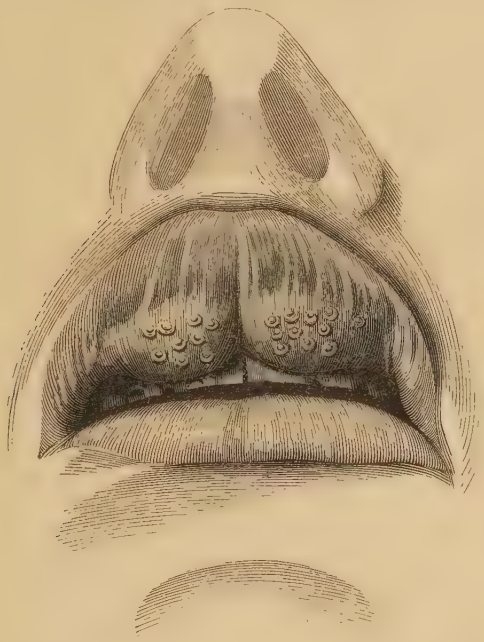
26th. At five o'clock in the afternoon, having been obliged to get up to stool, he took off the instrument, when, to his astonishment, he found that pulsation was no longer perceptible in the tumour. It was stated by one of the pupils who had charge of the case at the time, that he had detected pulsation in the tumour at eight o'clock that morning, while changing the point of compression. The vessels about the knee were observed to have become much enlarged; one ran along the tumour in its longitudinal direction.

May 3rd. The tumour has diminished greatly in its transverse diameter; the fingers can pass readily between its sides and the hamstring tendons. It feels perfectly solid.

29th. He was discharged this day. He can now walk very well without the assistance of a stick, can flex the knee perfectly, and suffers not the least inconvenience. The tumour in the ham is still to be felt, but is greatly reduced since last report.

Case of Enlargement of the Labial Glands. By W. R. Wilde, F.R.C.S., Surgeon to St. Mark's Hospital.

In December, 1845, J. F., a man aged 20, with light hair and fair complexion, applied to me on account of a remarkable enlargement of the upper lip, the peculiar characters of which are well exhibited in the accompanying illustration.



He states that, about two years ago, his upper lip, which had been previously of natural proportions, began to thicken and enlarge, particularly on its inferior and inner surfaces. That, since then, it has gradually increased to the size here represented; that it has not been attended with pain, but that, within the last few months, he has a feeling of stiffness and fulness in it, as well as some degree of irritation, dryness, and chapping, from the exposure of the mucous membrane to the influence of the atmosphere, &c. He says that he has never suffered from glandular swelling or any scrofulous disease; never had venereal; and has always enjoyed very good general health.

Upon examination, I found the lower lip totally unaffected, as well as the extreme angles of the upper; but all the rest of the red border of this lip was immensely thickened, and so much enlarged

that, when the mouth was closed, it formed a large, projecting, red mass, not unlike a pair of ripe strawberries, the division between them being caused by the natural central sulcus of the lip. If these projections were allowed to remain unwiped for some time, a number of globules of a clear fluid formed upon the surface of the mucous membrane, as the artist has endeavoured to represent in the foregoing wood-cut. If one of these was removed, and the eye was kept steadily fixed upon the surface beneath, another clear drop of fluid was seen to exude from a remarkably small aperture in the mucous membrane. Squeezing the lip between the fingers, if the pressure was continued for some minutes, likewise caused these drops to form like a dew on the surface of the membrane. The membrane itself was rather more vascular than usual: where the drops exuded, it was particularly smooth and polished, but towards the edge of the lip it had become thickened, covered over with adhesive crusts, and cracked in several places. The external surface of the lip was natural.

As the young man was very anxious to be relieved of this deformity, I removed it in the following manner. Assistants having commanded the coronary circulation, by holding the angles of the lip, as in the operation for the removal of cancer of this part, I made an incision, with a small, sharp scalpel, through the mucous membrane, parallel with and about three-eighths of an inch from the edge of the lip, and about two inches and a half in length. By another incision, through the membrane, upon the dental surface of the lip, which was everted for the purpose, I completely included and dissected out the diseased mass, which, during the progress of the operation, I found to consist of a congeries of small globular bodies, nearly transparent, and about the size of advanced trout-spawn. There was scarcely any hæmorrhage during the operation, and any granules of the disease which were cut across, or adhered to the surface of the wound, having been completely removed, the edges of the incision were accurately adjusted, and sewed together by a fine silk ligature, after the manner of the continued suture. Upon shutting the mouth, the deformity was found to have been completely removed, and the edges of the lips met as before the supervention of the disease. A few hours after a smart hæmorrhage occurred from the surface of the wound, but it was checked by the use of tincture of matico, and occasional pressure, which the patient was able to effect for himself.

Having submitted the diseased mass to Professor Aldridge for examination, I received from him the following statement:

"I have examined the portions of the upper lip which you sent me, and can find nothing but the natural structures in a state of considerable hypertrophy. This increased nutrition appears not only to have affected the reticular cellular tissue of the glands, but likewise the fibrous structure of the cutis. You know how difficult it commonly is to perceive the fibrous structure of the true skin in the human subject; in this instance you will be able to perceive it with

the naked eye, and still more remarkably with a lens. This gives to the touch a leathery sensation, and I can easily understand that, if the induration proceeded a little further, the part would acquire a scirrhous hardness.

"The great development of the labial glands in this case renders their structure very easily studied. By introducing a bristle into the gaping excretory orifice of one, you will find that it passes, by a narrow neck, into the gland, which is oval and about the size of a swan-shot. This gland is what Müller calls "folliculus conglomeratus." As might be expected, the blood-vessels proceeding to these glands are comparatively of a considerable size. I have counted thirty-six excretory orifices on the surface of one of the labial prominences that you removed, so that I can easily conceive the amount of projection which thirty-six of these glands, situated behind the mucous membrane, must have produced.

"You will find that, by carefully raising the cuticular covering of the surface, a tubular process of the epidermis can be drawn out of the excretory duct.

"The cellular tissue connecting the glands with each other is not indurated. Neither are the glands themselves indurated, though hypertrophied.

"You may question my employing the words 'skin,' and 'mucous membrane,' in this case, as synonymous; but in what consists their difference?"

The wound healed so kindly that the cicatrix could scarcely be perceived in a week's time. Nine months afterwards this man had no return of the disease.

Cases of injurious Effects following the Use of Rye as Food. By W. Colles, F.R.C.S., Surgeon to Steevens' Hospital. Reported by Mr. V. A. Browne.

John Hughes, aged 20, of low stature, with fair skin, light hair, and remarkably blue eyes, an unmarried labourer from the neighbourhood of Dunshaughlin, county of Meath, was admitted into Steevens' Hospital for a disease in the nails of all his fingers and toes, on the 17th of June last. He gives the following history of his case: he, his mother, a woman aged 50, and his sister, a girl about 15, all reside in a small cabin on a plot of very low, marshy, and remarkably poor ground, in the locality already alluded to, and have generally lived in exceeding poverty and wretchedness. He states, that about four years ago he had a very bad fever, from which he recovered with difficulty, some months subsequent to which all his nails got perfectly black, festered, and some of them came off by a slow, gradual, and comparatively painless process; and that, while the old ones were being removed, new ones were growing beneath, so that he suffered but little inconvenience, and was not prevented following his work by the circumstance. About this period his food con-

sisted chiefly of potatoes and turnips; but his daily allowance of these was rather limited.

Since that period he has continued in perfect health till December last, when he was attacked with diarrhœa, from which, however, he soon recovered.

From the end of harvest until March last the food of this family consisted almost entirely of rye made into cakes with a little wheaten flour, and eaten three times a day with tea; this rye was grown upon the land already described, and was a portion of a remarkably poor crop, which, besides being very meagre in quantity, was in quality very bad, numbers of ears being totally devoid of grain, and many affected with the "smut" or ergot.

About the beginning of April he noticed his nails becoming purple; he complained of a peculiar sensation at the tips of his fingers, which made them feel as if they were frost-bitten, and he could not bear any cold in them, but they were not very painful, the feeling being a kind of prickling. In about a fortnight afterwards they began, he says, to fester; suppuration seems to have been set up all round their edges, and pus now oozed from under them. In about a month from the seizure of the disease several of the nails appear to have, according to his account, "burst" round the matrices, and then fell off one by one, leaving a granular, unhealthy suppurating surface beneath. Toward the end of May one of his toe-nails became similarly affected, and was cast off, and the disease then appeared spreading over all the toes of both feet. About the first of May he remarked his hair falling off, and also changing in colour. At the time of his admission, and for a few days previously, he complained of some feverish symptoms, pain in his head and stomach, a sense of weight about the chest; cramps, and loss of power in the legs and feet; he had also thirst, a white tongue, and loss of appetite: the bowels were regular, and his sleep undisturbed. Since he arrived in hospital, however, all these general symptoms have disappeared. He has been treated with bark, and the sores on the extremities of the toes and fingers dressed at first with poultices, and subsequently with black wash and other mild astringent lotions.

On the 4th of July he presented the following appearance and symptoms: The hair of the head has become remarkably thin and dry, and now presents a short, uneven crop of the natural fair hair, mixed with a quantity of perfectly grey, or white, the whole growing in a very irregular manner. The skin of the head is remarkably dry and scaly; the pupils of both eyes are more dilated than natural, but are fully sensible to the influence of strong light. The temperature under the tongue is 99; the pulse 82 and feeble. All the nails have come off the fingers, and the surfaces from which they have been removed have a healthy appearance. Thin, white portions of skin, like new nails, are beginning to appear upon several fingers. All the toe-nails have now become affected, some have been removed; those that still remain are of a deep purple hue,

with an unhealthy discharge oozing out beneath their free as well as their attached extremities, which latter portions, immediately adjoining the reflection of the cuticle, have been destroyed, apparently by a process of ulcerative absorption. The entire nails seem thinned, and when their surfaces are pressed upon with the finger the discharge oozes out all round, but there is not much pain experienced, and the burning sensation which he complained of as soon as the ulcerative process had commenced in the fingers, has not been felt in the toes. His health is very much improved since admission into hospital; he is at present taking large doses of the nitrate of potash in vinegar.

This case has not exhibited any symptoms of the present epidemic of scurvy, and there has been scarcely any hæmorrhage from the sores.

This man's mother has, he states, been slightly affected in the nails, somewhat similar to the mode in which he was, four years ago. She, he says, had not used so much of the blighted corn as himself or his sister.

Mary Hughes, aged 15, the sister of the man described in the foregoing case, whom she remarkably resembles in the cast of countenance, expression, features, and colour of hair and eyes, was admitted into hospital upon the 2nd of July, labouring under an affection precisely similar to the brother's, but in a somewhat mitigated degree. Her hair, both on the head and brows, presents the same characters; the nails of nearly all her fingers and toes have got the purple cast, become thinned, and are painful to the touch. The ulcerative process has commenced in all; seven have been already removed, and the rest are now in the process of being cast off. The toe-nails are not so far advanced. There are no other cutaneous appearances at present. The tongue is white and creamy; the pulse 99; the temperature under the tongue 100.

Bowels regular; sleeps badly; catamenia have not yet appeared. Her treatment has chiefly consisted of the acetated tincture of iron.

The man states that some of his neighbours who partook of the rye had an affection of their nails; and that the land upon which this rye grew has long been remarked for causing disease in the cattle which grazed upon it, cows and horses having lost their hoofs. The domestic fowl belonging to these people also died shortly after the rye was reaped.

[It is worthy of remark, that this peculiar affection of the *nails* and *hair* has been known in Ireland for upwards of 400 years. Some years ago, while arranging an Irish nosological table for the Census Report, we met with the word *Bruisingnidhi*,—a bursting of the nail,—in MS. No. 4–6, in the library of the Royal Irish Academy, a very curious ancient medical tract, which, Mr. Curry says, was written about the middle of the fifteenth century. The disease was attributed by the Irish writers to excessive grief or sorrow. The term is also to be found as a glossed word in the Laebhar Breac.—Ed.]

Case of Removal of the Lachrymal Gland. By J. O. Pemberton, F. R. C. S., Ballinrobe.

Having read in the Number of the New Series of this Journal for February, 1846, a paper on the extirpation of the lachrymal gland, by Dr. Halpin of Cavan, and finding but few cases recorded of diseases of that gland requiring its removal, I am induced, in the hope of adding somewhat to the general fund of medical and surgical knowledge, to publish the following case.

Mary Gibbons, aged 81 years, came to me in the month of March, 1843, with a large tumour protruding from the right orbit, inclining towards the external angle, and completely concealing the eye from view; the integuments covering it were of a purplish colour, somewhat resembling the tint of muddy port wine, and traversed by very large, tortuous veins. On raising up the tumour and elevating the superior palpebra, the eye could be seen, with the cornea quite flattened, as if sliced off with a knife,—caused, no doubt, by the pressure as well as friction of the tumour against it, in the movements of the eye-ball. The pupil was natural, and contracted on the stimulus of light. The span of the lids was small, which gave the eye a very sunken appearance. The globe was not protruded from the orbit, notwithstanding the size of the tumour. She stated that it commenced about ten years before in a small "lump," towards the outer part of the orbit; that "it continued to increase gradually, until it grew over the eye," the sight of which she lost, about eight years before. She could not raise the upper lid, except with her hand; and she says that she had only occasionally a sharp, darting pain in it, but, from its deformity, she had made up her mind to have it removed. Accordingly (assisted by Surgeon Robertson, of the 69th Regt.), I performed the operation. My first incision commenced at the junction of the frontal and nasal bones, and continued along the superciliary ridge, close to the eye-brow, extending to about half an inch or better beyond the external angle of the eye. I then made another incision from the point of my first, and carried it along the anterior surface of the tumour, at such a distance from the ciliary margin of the lid as to leave sufficient, but not too much, integument, for a superior lid, and by making the two incisions meet at their extremities, thus removed an elliptical portion of the integuments, but leaving the ligamentum palpebrarum untouched. Having freed the tumour from its external covering, I next very carefully separated it from the roof of the orbit with the handle of the scalpel, gently drawing it forward as I went along; but it was buried so deep in the orbit, I had to use great caution for fear of injuring the globe of the eye upon which it lay, and to which it was partially attached by adhesions of delicate cellular membrane: however, by a little care and management, I dislodged its deeply imbedded portion, and separated it from the conjunctiva, which was reflected on the portion of lid left, to which also it was

adherent, and removed it. There was not an ounce of blood lost, neither any vessel requiring a ligature wounded. I brought the edges of the wound together, and kept them in position by a few stitches of interrupted suture, and adhesive plaster, and applied water dressing and a bandage. She bore the operation remarkably well, and walked down street to her lodging. She stated she could now see every thing with the right eye, but not quite so distinct as with the other; this arose, I imagine, from the flattened state of the cornea. In a week's time, all the wound had healed, except at its external angle, near a suture, where a very small abscess formed; but it was discharged, and soon healed, leaving scarcely a mark of the extensive incision to be seen. In ten days she returned home, a distance of twelve or fourteen miles. In my mode of performing this operation I differed from those who had previously removed tumours from the orbit; and I think I rendered it simpler and quicker in its performance, with less dissection and pain to the patient, and leaving no deformity behind; for, in the second incision, I divided, and removed with the tumour, a quantity of loose and stretched integument, which, if left, would probably produce ptosis as the muscle could scarcely again regain (from its great attenuation) contractile power sufficient to elevate the lid afterwards. The tumour, which is the size of a large orange, was divided into two lobes, the smaller one lying buried deep in the orbit, the larger being external; when cut into, it was found to be composed of dense fibrous tissue, of homogeneous consistence, of a whitish colour, and had no appearance of blood-vessels; the superciliary ridge at its outer margin was completely absorbed, so that one could bury the top of the index finger in it. I saw this patient a few months since, three years after the operation; there was no mark to be seen; she could see with the right eye as well as the other, and there was no appearance of any return of the disease.

Case of Pneumothorax, with Empyema. By J. Moore Neligan, M. D., Physician to Jervis-street Hospital. Reported by Mr. E. W. Sullivan.

Thomas Lacy, aged thirty-three years, unmarried, by occupation a hatter, of spare habit, and emaciated from previous disease, was admitted into Jervis-street Hospital, December 4, 1846, complaining of cough, difficult respiration, and general debility. He states that about five months since, having been exposed to cold and wet, he was attacked with cough, accompanied by expectoration streaked with blood; this continued, with intermissions, for about three months, when an acute pain in the right side supervened, which induced him to apply for the first time in his life for medical advice; he was then blistered over the painful spot, but he did not take any medicine. Since that time he has been gradually losing flesh, and latterly he has been subject to occasional attacks of diarrhœa, and to night sweats. He

has also been unable to lie for more than a few minutes at a time on the left side.

Previous to this illness he enjoyed uninterrupted good health: his habits were always extremely temperate. He adds that, as far as he is aware, none of his family were affected with pulmonary disease.

His appearance on admission was as follows: anxiety of countenance; great emaciation; respiration laboured and hurried; projection of superior portion of sternum; no motion of the ribs or intercostal spaces on right side,—the latter being considerably bulged outwards; decubitus altogether on the right side, being unable to lie for more than a few seconds on the left. The measurement of the right side, at its greatest diameter, is one inch more than the left. The liver is pushed downwards. The following are the physical signs present: on the right side, anteriorly,—the patient sitting up in bed,—there is elicited, on percussion, in clavicular, infraclavicular, and mammary regions, a peculiarly resonant sound, as low down as the sixth rib, where it suddenly becomes dull; and, posteriorly, the resonance and dulness correspond, except over the scapula, where there exists comparative dulness; but, on getting the patient to lie on the left side, the resonance extends to the base of the right lung. On auscultation, no respiratory murmur can be heard over the right lung anteriorly; posteriorly, the respiration is bronchial in the right suprascapular and scapular regions. Well-marked amphoric respiration is to be heard in the right infrascapular, dorsal, and axillary regions, as also metallic pectoriloquy(*a*), and, at intervals, metallic tinkling. On succussion, a very evident splash is perceivable. The left side sounds naturally on percussion; but the respiration is somewhat puerile. The heart's action is normal, but its pulsation is felt in the left axillary region.

On admission, he was ordered an oil draught, and a fourth of a grain of muriate of morphia at bed-time.

December 5th, nine o'clock, A. M.—Had passed a good night, but the symptoms, as described yesterday, continue unabated; there is rather more turgidity of countenance, with increased dyspnœa.

He died at twelve o'clock this night, rather suddenly, having rallied much from a severe attack of dyspnœa, with which he was affected in the course of the day.

Sectio Cadaveris, fifteen hours after death. On making an incision through the centre of the ribs, on the left side, the right pleura was seen to extend five inches from the centre of the sternum, obliquely downwards, in the direction of a line drawn from the most prominent portion of the left clavicle to the fourth rib, and thence to the point of the ensiform cartilage, and was distended with air. The

(*a*) The term *metallic pectoriloquy* has not, I believe, been before employed to express the peculiar character of the voice, as heard on auscultation in pneumothorax: it appears to me to indicate well its remarkable tone,—the voice reaching the ear, as it were, through a brass tube.

heart was pushed over into the left axillary region, its apex (which was formed by the right ventricle) corresponding with the centre of the sixth rib. The right pleural cavity contained a great deal of air, and about sixteen ounces of a sero-purulent fluid, with fine flakes of lymph floating through it. The right lung was compressed into a small space, close to the vertebræ. It was connected to the diaphragm by a band of lymph, two inches long, and half an inch broad; and a similar band, three inches long, connected it lateraly to the false ribs. The upper lobe was firmly bound down in its entire extent by numerous bands of organized lymph. The left lung was adherent, in several places, to the ribs,—many of the adhesions being evidently recent.

On removing the lungs from the thoracic cavity, the entire of the left lung was found to be minutely studded with miliary tubercles, without any appearance of softening. The three lobes of the right lung were intimately united together, and covered with the pleura, which was more than two lines thick. On its posterior aspect, and apparently at the lower edge of the upper lobe, was perceived a rounded opening, about the diameter of a crow-quill, covered with an epiglottis-like prolongation of lymph.

On inflating the lung through the right bronchus, the air passed freely out at this orifice. A glass rod being introduced into it, and a careful dissection having been made, it was found to communicate with a middling-sized bronchial tube, by means of a regularly organized canal or duct, six lines in length, but no appearance of a cavity, or even of softening, could be perceived either in connexion with it, or in any other part of the lung, though it was thickly studded with miliary tubercles.

The heart was covered with a thick layer of fat, but was otherwise in a healthy state.

All the abdominal viscera were in a perfectly normal state. The brain was not examined.

There are some features in this case which render it worthy of being recorded. In the first place, the fact of a patient labouring for some time under the combination of pneumothorax and empyema, and suffering so little as not only to seek for no medical advice, but to be able to follow the usual occupations of his trade, is somewhat singular; for, from his own account, he never consulted a physician but once, about three months before his death, at the period when an acute attack of pleuritis appears to have been caused by the perforation of the lung.

The case is also a good example of the value of the expectant, or, as some have recently chosen to term it, the *rational* method of treating disease; no remedy having been in this instance employed, with the exception of the application of a blister, until his admission into hospital, thirty-nine hours before he died.

The *post mortem* examination revealed appearances, sufficient, I think, to account for the rather sudden death. The perforation through the lung was covered, as is stated in the report of the case,

with an epiglottis-like prolongation of lymph(*a*). This acted like a valve, covering the orifice, permitting the air to pass into the cavity of the thorax on inspiration, but not allowing it to escape again on expiration. This, of course, could not occur, until the valve of lymph was of sufficient size to close the orifice completely, after which, every time the patient breathed, an additional quantity of air was forced into the right pleural cavity, and as it could no longer escape from thence, the left lung was of necessity more and more compressed. The perforation was, in the first instance, probably caused by tubercular deposition on the surface of the pleura, exciting ulceration through a small bronchial tube.

With reference to treatment a question arises, as to whether *paracentesis thoracis* would have proved of any service,—the more especially, as the physical signs were so well marked, that there was no difficulty in diagnosing the disease; but the short time that elapsed between the period of the patient's admission into hospital and his decease, and also the suddenness of his death, did not admit of the question of the operation being entertained.

Case of Lithotrity. By Josiah Smyly, F. R. C. S., Surgeon to the Meath Hospital.

Mark Whelan, aged 48, a silk weaver, applied to the Dispensary of the Meath Hospital, labouring under retention of urine. A gum elastic catheter was introduced with great facility, and the urine drawn off; in taking out the instrument it was perceived to grate along a stone. The patient was apprized of his state, and advised to come into the hospital. He entered it on the 29th of April, 1847.

He stated that his health has been bad for many years; but that about three years ago he first experienced pain in the left loin, accompanied occasionally with vomiting, and flatulent distension of the colon. He had also frequent attacks of urinary fever, viz., rigors, followed by heat of skin, headach, and profuse perspiration. He was affected by the above symptoms of calculus in the kidney for a year, when a change took place, and for the last two years he has had the rational symptoms of stone in the bladder. Some time ago he applied to another hospital, where he was sounded, but, no stone having been detected, he was treated for prolapsus ani, under which he still labours.

April 30th. The stone was measured, and found to be five-eighths of an inch in diameter. There was a good deal of irritability of the bladder; the urine was muddy, with a very heavy deposit of a tenacious muco-purulent substance at the bottom. The decanting the supernatent fluid and testing it gave an alkaline reaction, and on adding nitric acid a considerable quantity of a white precipitate (albumen) was thrown down. He was ordered dilute nitric acid, and tincture of hyosciamus in decoction of pariera brava.

(*a*) The preparation is preserved in the Museum of the Dublin School of Medicine, Peter-street.

May 3rd. Considerable improvement in his general health, and in the condition of the urine. The ropy mucus now bears the proportion of an ounce to the eight ounces of urine, instead of being that of nearly one-half; and the quantity of albumen, whether tested by nitric acid or heat, is merely sufficient to cause a cloudiness of the fluid.

May 26th. The urine having assumed a healthy appearance, I proceeded to break the stone with the screw lithotrite, having previously injected four ounces of water into the bladder. The stone was readily caught, broken, and two fragments crushed, when further proceedings were put an end to by the water escaping from the bladder.

27th. He had a severe rigor yesterday in the afternoon, followed by heat of skin and profuse sweating. The urine is high-coloured, and loaded with mucus ; there is a small quantity of detritus entangled in the mucus.

29th. Has considerable difficulty in making water ; on passing a catheter a stone is detected in the membranous portion of the urethra, near the neck of the bladder, which can neither be pushed back nor extracted by the instruments devised for the purpose, several of which were tried. A violent rigor coming on, all further attempts were desisted from; intending, when the constitutional symptoms permitted, to cut into the urethra and extract the stone.

31st. As the urine still passed pretty freely, the incision was postponed; a purgative was given, during the operation of which the fragment moved forward to the orifice of the urethra, from which it was extracted. It measured five-eighths of an inch in one diameter, and three-eighths in another. It is surprising how so large and irregular a mass of stone could pass through the urethra.

June 1st. Since the large piece has come away, several small pieces have been discharged ; the patient is free from all annoyance, and is in good health.

11th. Not having passed any detritus since the 1st, and being free from the "rational" and "sensible" symptoms of stone, he was dismissed.

June 22nd. Came to the hospital to return thanks, and to say that he has not enjoyed so good health for the last fourteen years as since the operation.

The stone was analysed by Dr. Geoghegan, who sent me the following note of it: "I find the interior laminæ of the fragment you sent me to be composed of oxalate of lime. The exterior one is a mixture of phosphate of lime with lithic acid."

Case of Irregularity of the Femoral Artery.—Fracture of the Femur from Necrosis; Hæmorrhage; Death. By Henry Thompson, F. R. C. S., Surgeon to the Tyrone Infirmary.

The following case appears to me to be interesting, as affording an example of an irregularity in the course of the femoral artery,

rather a rare anatomical occurrence, I believe, and one which in the present instance proved to be of the most vital importance, as in consequence of it the patient lost his life.

James Gorimly, aged 9, of fair complexion and delicate appearance, was admitted into the Tyrone Infirmary on the 8th December, 1846, with a fracture of the right femur, immediately above the condyles. On examination it was found that the lower third of the bone had been in a state of necrosis for the previous six months, and that several pieces of sequestra had been discharged from two openings, one of which was situated on the inside, about two inches above the most prominent part of the internal condyle, the other on the outside of the external hamstring; through both of these openings the broken end of the diseased bone could now be very plainly felt: the lower fragment was drawn up behind the upper one, and projected in the form of a large tumour in the popliteal space; in front there was a hollow corresponding to the prominence behind. There was no great amount of hæmorrhage; the appearance and temperature of the limb below the fracture were natural, and the pulsation of the tibial arteries sufficiently distinct to prove that the popliteal, which seemed endangered by the position of the lower fragment, was uninjured, yet the boy seemed so debilitated by the previous disease,—and the possibility of his ever outlasting the protracted and complicated processes which the cure of such an injury required, seemed to me so improbable,—that I at once recommended amputation; this was opposed by another surgeon in whom his friends had more confidence, and I agreed to give him a chance of saving his limb, which was accordingly placed on the double inclined plane, the bones having been placed in apposition as well as possible. He appeared to be going on favourably for about a month, when hæmorrhage suddenly took place one evening, and before any one was aware of it he was lying in a pool of blood, which was trickling through the bed to the floor. As soon as assistance arrived, and the bandages were removed, the bleeding was found to have ceased, faintness having been produced. The blood was florid, and had issued from the outer and posterior orifice, which circumstances, together with the quantity lost in so short a time, led me to conclude that either the popliteal or some large arterial branch was implicated in the disease, and had been either perforated by some sharp spicula of bone, or opened by ulceration. I immediately mentioned the occurrence to the boy's father, who lived in the neighbourhood, remarking that, whatever doubt there might have been at first, there could now be none as to the absolute necessity of amputation to save his life. He would not listen to the proposal, however, so I told him his son would assuredly die in another attack of bleeding at no very distant period. The treatment was continued as before; and after about a fortnight, when he had in some degree rallied from the effects of the first bleeding, another took place in which he was very near dying. He recovered from it, however, and another symptom, (which, if it

had existed before, had escaped my notice), was now, for the first time, observed. This was a distinct diastolic pulsation, occupying the site of the fracture, commanded by pressure on the femoral artery in the groin, and unattended by any increase of swelling; a large artery, continuous with the femoral, could also be traced by its pulsation into the site of the fracture. It appeared to me quite plain that this was the vessel from which the blood came, and the idea of putting a ligature on it at a distance from the seat of the injury was frequently suggested to my mind; but the general health of the patient, debilitated to the last degree by previous disease and repeated hæmorrhage, the state of the limb below, which had become œdematous, and the existence of a great tendency to diarrhœa, induced me to conclude that any further interference with the case would only tend to bring our art into disgrace; so I left him, reluctantly, to his fate. A third attack of hæmorrhage, from which he with difficulty recovered, took place, and soon after a fourth in which he died.

Permission was given to examine the limb; and the vessel which had been traced along the inside of the thigh to the site of the fracture, was found to be the trunk of the femoral artery which ran in a direct line from the upper part of the thigh to the inner condyle, merely covered by the integuments and fascia, except in the middle third, where it was crossed by the sartorius. It sent a branch to the popliteal space, through the usual opening in the tendon of the adductor magnus; and having arrived at the inner condyle, it took a sharp turn backward, and passed under the gracilis and inner hamstring tendons to the ham, where it divided as usual. The whole vessel appeared to be increased in size, and particularly where it passed over the site of the fracture; its coats here were remarkably soft and brittle, easily breaking down under the forceps. It was very carefully dissected, and found adherent to the subjacent parts, where it passed over the broken bone; and on slitting it open on the opposite side, a large opening, with a smooth, funnel-shaped margin, capable of admitting the extremity of the little finger, presented itself, leading into the cavity, which contained the broken ends of the bone, together with several pieces of sharp-pointed sequestra. This cavity communicated with the external openings. The remainder of the femur, up to the trochanter, was quite red in colour, from the number of enlarged vessels it contained; the periosteum was thickened, softened, and very loosely attached to the bone, and the muscles were all glued together by effused lymph; there was no attempt at union in the broken extremities of the bone. The fracture had taken place at the junction between the shaft and the epiphysis, and the separated surfaces looked just as they might have done at the moment of separation.

SOME NOTICES OF THE IRISH MESMERISTS OF THE SEVENTEENTH CENTURY.

GREATRAKES, COOK, AND FINAGHTY.

By R. R. MADDEN, M. D., M. R. I. A.
COLONIAL SECRETARY IN AUSTRALIA(*a*).

The first person in this country who performed cures by stroking patients with the hands, is commonly supposed to have been Mr. Valentine Greatrakes, who flourished in the reign of Charles II. That supposition, however, is erroneous; a much more remarkable performer of this kind figured in Ireland in the troubled times of the Commonwealth, as well as after the Restoration. An account of his "wonder-working practices" exists, drawn up with great care and critical acumen by a contemporary having a personal knowledge of the man, his pretensions and performances; indeed, it would be difficult to find, even in the Critical Dictionary of Bayle, a subject, curious in its nature, or for the authenticity of the testimony on which the facts relating to it are supported, treated with more acuteness or subjected to a more searching inquiry.

In the following notice of it some interesting particulars and remarkable statements of facts in relation to practises analogous to those of modern animal magnetisers, will be laid before the reader, and it is for him to make his own deductions from them.

It may be well to state that this account of the performances of Greatrakes and his precursor is given without any intention of furnishing arguments either for or against the belief in mesmerism.

Those who set about building up systems before they have collected sufficient materials for the projected structure, begin at the wrong end of their undertaking; and, perhaps, the disposition to demolish everything newly raised, from a fear of novelty that exaggerates defects, may lead to the untimely end of beginnings that might, possibly, have grown into something good or useful, had the work proceeded.

In things that are strange and new, every failure in the performance of them is accounted by some persons a proof of impos-

(*a*) [It is our intention not only to continue our series of medical biographies, but also to give, from time to time, some notices of rare Irish medical works, as well as accounts of Irish medical manuscripts, of which the Royal Academy and the University possess so many valuable specimens. We likewise purpose devoting an occasional chapter to the record of some of the superstitions connected with medicine, and would gladly receive any information on this subject which our country friends can afford us. On the present occasion we avail ourselves of the peculiar knowledge and ability of our distinguished countryman, already so favourably known to science, literature, and humanity, to present our readers with some notice of a subject partly medical, partly superstitious, and partly mesmeric.—Ed.]

ture, and in others a great number of failures fail to excite any suspicion of the power or probity of the performer. In debating societies, the question, exceedingly vexed and perplexed by much discussion, whether Cromwell was a hypocrite or a fanatic, remains always to be disputed and never to be resolved. The fact is, those who are the dupes of their own zeal, as their credulity increases, become unscrupulous with regard to the means they employ to acquire notoriety, to inspire confidence, and to lure others into their opinions, real and professed.

This was essentially the case with a late very eccentric lady, remarkable for her opinions respecting the occult sciences! "Hypocrisy," says Hume, "quite pure and free from fanaticism, is perhaps as rare as fanaticism entirely purged from all kinds of hypocrisy." Of other kinds of enthusiam and imposture, as much may be said. It is rare to find one quite pure and free from the other, and the fervour of the former entirely purged from all mixture of the latter. Evident attempts to deceive may justly bristle up all the faculties, and put reason on its guard against imposition; but sound criticism will scrutinize with patience all subjects and phenomena presented to it, and even where there is much to excite suspicion, censure, or disgust, will leave nothing, however ill-accompanied, unnoticed, that has any claim to attention, or right to a candid judgment.

The account of the career of one of the "performers" referred to, stands peculiarly in need of those observations.

Before entering on the subject of the first wonder-working non-professional practiser of the healing art I have referred to, the principal circumstances that are known of Greatrakes require to be briefly noticed. He was born, by his own account, in 1628, at Affane, in the county of Waterford; educated in the free school of Lismore; and "perfected his studies in humanity and divinity in England," in the house of his maternal uncle.

The breaking out of the rebellion had caused the flight of his family, and the embarrassments of the latter led to his return to his native land. Afflicted at the deplorable state of the country, and disgusted with the unnatural differences then existing, he retired from the scene of strife and sought seclusion in the Castle of Cappoquin. "There," he says, "I spent a year's time in contemplation, and saw so much of the madness of the world that my life became a burden to me, and my soul was as weary of this habitation of clay as ever a galley-slave was weary of his oar." In 1649 he obtained a commission in Lord Broghill's regiment, then on service in Munster; and in 1656, when a part of the army was disbanded, he retired to his estate at Affane, and shortly after was appointed a justice of the peace. About 1662, when he was thirty-four years of age, he says he had "an impulse, or a strange persuasion in his mind (of which he was unable to give any rational account to another), which did very frequently suggest to him that there was bestowed on him the gift of curing the king's evil."

This conviction he concealed for some time, but at length communicated it to his wife, who endeavoured to persuade him it was "some strange imagination;" whereupon he made his first experiment in her presence on a youth afflicted with the evil "grievously in the eyes, cheek, and throat."

"Then I laid my hands on the places affected, and prayed to God, for Jesus' sake, to heal him, and bid the parent bring the child two or three days afterwards to me again, which accordingly he did, and I saw the eye was almost quite whole, and the node, which was almost as big as a pullet's egg, was suppurated, and the throat strangely amended; and to be brief (to God's glory I speak it), within a month discharged itself quite, and was perfectly healed, and so continues, God be praised."

He now proceeded on his career of healing by means of prayer, friction, or stroking the affected parts, and his fame extended over the country and even beyond its shores.

In his own account of his proceedings after his first return from England, he mentions having lived in a state of seclusion for a year, in the Castle of Cappoquin.

We find in Smith's Waterford a very curious account of Robert Cook of Cappoquin, a kind of Pythagorean philosopher, who, "for many years before he died, neither eat fish, flesh, milk, butter, &c., nor drank any kind of fermented liquor, nor wore woollen clothes, or any other produce of an animal, but linen. This man had a considerable estate in this part of the country. During the troubles in King James's time he removed to England, and lived sometime at Ipswich, but returned to this country, where he died about the year 1726."(*a*) In 1691 he published a very remarkable paper in the form of questions and answers respecting his tenets, wherein, giving his reasons for the customs he adopts and the faith he holds, he calls himself "a Christian and a Protestant," whose religion it is "to fear God and to keep His commandments,"—"to abhor evil and to do good, and have fellowship therein with all in every sect, or gathered or scattered people,"—"to hearken to the Spirit of Christ, which is the law of life in man," "the divine swift witness," which reproves for sin and overcomes all evil inclination: to follow the example of James the Just, that holy apostle Eusebius writes of, "the brother of our Lord, who eat not flesh nor fish, nor drank wine, nor used woollen clothes, but linen;" "which cannot give any just man offence;" the object of it being "to keep out of wrath and violence," and to avoid things like "wine and strong drink, which are hot in operation and intoxicating," and, as he thinks, "needless as tobacco to him," finding water, bread, and vegetables, most healthful, and linen and other issues from vegetable fibres "cleanest and wholosomest;" and thus to free himself "from most of the cumbers, labours, and toils, both of body and mind, a few things being sufficient in this way of

(*a*) The Ancient and Present State of the County of Waterford. By C. Smith, M. D. 8vo. Dublin, 1774, p. 370.

living, and bringing easily into contentedness and true thankfulness to God."

This remarkable man lived to upwards of fourscore years,—his opinions were refuted by the Athenian Society, and Smith disposes of them more contemptuously than he was justified, perhaps, in doing. Cook was not above fifteen or eighteen years younger than Greatrakes. It is probable the opinions of both were derived from a common origin.

In 1665, at the request of the Earl of Orrery, Greatrakes went to England "to try his hand on the head of the Lady Conway, of Ragley, in Warwickshire," who had long laboured under some cerebral affection. He remained at Ragley some weeks, and totally failed in his efforts to cure or relieve that lady; but "several marvellous cures performed (in Warwickshire) by the stroking of the hands of Mr. Valentine Greatrakes," are related by Dr. Stubbes, a medical practitioner of Stratford-upon-Avon, in a letter containing an attestation of several other cures by "the miraculous conformist,"—as the poor Irish gentleman was called,—given by Mr. Foxcraft, M. A., a Fellow of King's College, Cambridge(*a*).

In Stubbes' letter, he speaks thus of the performances he witnessed: "filling with admiration the most learned and suspicious beholders. In truth, they are such that he is not at all obliged to the ignorant for the esteem he hath acquired, nor is it possible for the most tender or superstitious and censorious zealots to destroy his repute. He is a man of a graceful personage and presence; and if my phantasy betrayed not my judgment, I observed in his eyes and mien a vivacity and sprightliness that is nothing common."

The writer proceeds to describe him further as a man of good life, of benevolent principles, "conforming to the doctrine and discipline of the Church of England, yet without that censoriousness whereby some signalize themselves," modest and humble, thinking well of others, and "seeming by his faith and by his charitableness, to include some grains of the golden age, and to be a relic of those times when piety and miracles were sincere."

In his attempts, however, to give a natural solution of most of the cures effected by Greatrakes, he makes mention of his long and continued frictions from one to two and three hours; and Dr. Smith, in his History of Waterford, reminds his readers of Bacon's observation in his History of Life and Death,—that motion and warmth (of which true friction consists) draw forth into the parts new juice and vigour, and conduce much to longevity. "How far the imagination" (in those alleged cures), he adds, "might contribute to the cure, is uncertain."

The fame of Greatrakes reached the court of Charles II., "who invited him to Whitehall, to exhibit his powers." The Earl of Arlington was the bearer of the King's commands. The merry

(*a*) The Miraculous Conformist, or an account of several Miraculous Cures performed by Mr. Greatrick. Oxford, 1666. 4to.

monarch might have been somewhat jealous of the renown of a successful rival in the practice of manipulating patients for the cure of scrofula. One of His Majesty's first public acts after the Restoration was "touching for the evil," which Evelyn thus describes: "July the 6th, 1660, His Majesty began first to touch for the evil, according to custom, thus:—His Majesty sitting under his state in the banquetting house, the chirurgeons cause the sick to be brought or led up to the throne, where, they kneeling, the King strokes their faces or cheeks with both hands at once, at which instant a chaplain in his formalities says, 'he put his hands upon them and he healed them.'" This the good old Evelyn details in his usual quaint, quiet manner; and having described the patients getting a piece of money strung on white ribbon put round their neck by His Majesty, he adds: "the chaplain, each time the King put on one of those ribands, repeated: 'That is the true light who came into the world.' The Gospel was then read, prayers for the sick offered up, a blessing pronounced, and the King washed his hands after having stroked above six hundred."(*a*)

Greatrakes undertook the journey to England without expectation of fee or reward; and after he had been at the palace of Whitehall, where it does not appear he attracted much attention, he took up his abode in Lincolns-Inn-Fields, "where incredible numbers of all ranks and sexes flocked to him respecting the restoration of their health."

"All he did was only to stroke the patients with his hands, by which all old pains, gout, rheumatism, and convulsions, were removed from part to part, to the extremities of the body, after which they entirely ceased; which caused him to be called the stroker: of all which he had the testimonials of the most curious men in the nation, both physicians and divines."(*b*)

In the memoirs of Lord Orrery, in manuscript, *anno* 1669, cited by Harris, Mr. Love states that Greatrakes failed to relieve him of a pectoral and rheumatic disease, but he was witness of his curing the falling sickness, beyond credit; and further, that the Royal Society, and other modern philosophers, not able to dispute the fact, found words to define it, and called those strange effects "a sanative contagion in the body, which had an antipathy to some particular diseases and not to others."

In the Philosophical Transactions, No. 256, p. 332, the celebrated Ralph Thoresby gives several remarkable instances of cures effected by Greatrakes. He mentions the practice adopted by him in the case of his own brother, suffering from violent pain in the head and back, "who obtained immediate ease to his head, by the former only stroking it with his hands; he then fell to rub his back, which he most complained of, but the pain immediately flew from his hand to the right thigh, thence he pursued it with his hand to his knee, from thence to his leg, ankle, and foot, and at last to his great toe. As it

(*a*) Grammont's Memoirs, p. 435. (*b*) Smith's Waterford, p. 366.

fell lower it grew more violent, and when in his toe it made him roar out; but upon rubbing it there it vanished." He gives another case, of white swelling of the knee, of six or seven years' standing, also cured. "He stroked both the knees of the patient, and gave her present ease, the pain flying downwards from his hand till he drove it out of her toes, and the swelling in a short time wore away, and never troubled her after."

He gives a third case in the same Transactions, of a person cured of deafness and pain in the ears, and mentions several other cures. "He adds, that when Mr. Greatrakes stroked for pains, he used nothing but his dry hand; if ulcers or running sores, he would use spittle in his hand or fingers; and for the evil, if they came to him before it was broke, he would stroke it, and ordered them to poultice it with boiled turnips, and so did they every day till it grew fit for lancing, &c." "Such as were troubled with fits of the mother, he would presently take off the fit by laying his glove on their head; but he never perfectly cured any, for their fits would return." But Mr. Thoresby mentions that he cured many of falling sickness, provided they remained with him, so that he might see them in three or four fits, else he could not cure them.

Some of his failures in England caused a clergyman of the name of Lloyd to write a book against him, entitled, "Wonders no Miracles, or Mr. Valentine Greatrakes' Gift of Healing examined." London, 4to. 1666. The latter vindicated himself in a publication named, "A brief Account of V. Greatrakes, and divers strange Cures by him performed; in a letter to the Hon. Robert Boyle, Esq." London, 4to. 1666. Lloyd's severe reflections on the reputation of "the Miraculous Conformist," seem to have borne down his reputation in England; and on his return to his own country nothing foreign was requisite to bear out in his case the truth of the old adage that "no man is a prophet in his own country." The last time that any mention is made of him by his contemporaries was in 1681: he was then living in Dublin, "but how long he lived after," says Dr. Smith, is uncertain.

In 1673, when Peter Walsh, the Franciscan, produced his History and Vindication of the Irish Remonstrance, Greatrakes appears to have sunk into obscurity. Walsh says, that no sooner had a Catholic wonder-worker made his exit, "than Greatrix, an *English* lay Protestant, started up to supply the former's place, by making people believe he himself, too, had a gift from God to cure all diseases by praying and stroking; even also at London, whither he came at last to cheat the world, as the former was thought to have done. What became of this Greatrake I neither know nor care; only this, I know that, not long after his practises on folks in London, he went out like the snuff of a candle, just as Finaghty did."(*a*)

(*a*) Walsh's History of the Irish Remonstrance, p. 736.
In addition to these notices of Greatrakes, we beg to refer our readers

Walsh, when Procurator of the Franciscans, was called on, in 1666, to lay before the National Congregation assembled in Dublin "a detailed account of all he had either heard from others, or by his own experience known, of that good father, the far-famed, wonder-working priest, father James O'Finaghty." It is to be borne in mind that Walsh had taken a prominent part in the affairs of the Catholic Confederation, against the Cardinal Rinuccini, and in favour of the Viceroy Ormond, and, by his own admission, Finaghty had been of the opposite "nuncio party in the late troubles of the nation." Ormond, again filling the same office in 1666, patronized Walsh, who was on very intimate and confidential terms with him; and after the departure of the latter from Ireland, so little were the tendencies of Father Walsh towards superstition or enthusiasm in religious matters appertaining to his Church, that in England he finally obtained some appointment in connexion with the Protestant Cathedral of Winchester, which did not render his services in a clerical way indispensable. There is another point, probably, that requires attention. Father Walsh professes over and over to have made his researches and report in a spirit of the utmost im-

to our preface to the Number of this Journal for Feb. 1846, pp. iii. iv. v. See also Walter Harris's translation of Ware's "Writers of Ireland," where we have one of the earliest accounts of "Valentine Greatreaks, an estated Gentleman, born at Affane, in the county of Waterford, in 1628." Besides the writings of Boyle, Stubbes, Thorsby, Lloyd, Charles Smith, Walsh, Love, Wichcot, Cudworth, and Patrick, where the question of Greatrakes' cures are considered, we also find him mentioned by Dr. Henry Moore; and the ingenious novelist, Mr. St. Evermond, made him figure as the hero of a romance called "The Irish Prophet," to which we have already alluded. The first volume of the Dublin Penny Journal, p. 401, likewise contains a brief memoir, with a portrait of this remarkable personage, as also a letter from Lord Conway, about his "sanative virtue" and "natural efficiency."

Dr. Beal about this time communicated to the Royal Society the following statement with respect to practices somewhat similar to those of Greatrakes, and several of which, especially those enumerated under the fourth head, are still employed by persons of high rank and station at the present moment in Ireland: "1st. That he could make good proof of the curing or killing of a very great and dangerous wen, that had been very troublesome for two or three years, by the application of a dead man's hand; whence the patient felt such a cold stream pass to the heart, that it did almost cause in him a fit of swooning. 2nd. That upon his brother's knowledge, a certain cook in a noble family being reproached for the ugliness of his warty hands, was bid, by his lord, to rub his hand with that of a dead man; and that his lord dying soon after, the cook made use both of his lord's advice and hand, and speedily found good effect. 3rd. That a gentleman who came lately out of Ireland informed him of an aged knight there, who, having great pain in his feet, insomuch that he was unable to use them, suffered a loving spaniel to lick his feet, mornings and evenings, till he found the pain appeased, and the use of his feet restored. This, saith the relator, was a gentle touch and transpiration; for he found the spirits transpire with a pleasing kind of titulation. 4th. That he can assure of an honest blacksmith, who caused vomitings by stroking the stomach, *gave the stool by stroking the belly*, and appeased the gout and other pains by stroking the parts affected."—Vide Philos. Transact. Numb. 12, p. 206."—Ed.

partiality and candour, with a desire to do the fullest justice to the pretensions of the subject of his inquiries. But a cautious reader might be inclined to say, "methinks the gentleman doth protest too much:" nevertheless, bearing these things in mind, how the reporter was circumstanced and disposed, his account of the performances of the wonder-working priest is drawn up with singular judgment, care, and industry.

The first time and place that Father Walsh heard of this singular personage was in 1657, in London, during the reign of Cromwell. In a letter from an Irish Jesuit to one of his order in London, there was an account of one James Finaghty, a secular priest, who formerly had charge of a parish in the archbishopric of Tuam, apparently raised up by Providence, in those times of trouble and calamity, to confirm the people in their religion; and for this purpose "extraordinarily gifted with a true miraculous power of dispossessing devils, and curing too all sorts of other ills, even the most natural diseases, so that he drew the world after him, and not only Catholics but Protestants. Insomuch, that he had often a thousand, sometimes fifteen hundred, nay, two or three thousand, who followed him even through bogs, woods, mountains, and rocks, and desert places, whithersoever the people heard him to have fled from the persecution of Cromwell's officers and governours; that priests enough could not be had (though many accompanied him on purpose) to hear the confessions of the great multitude drawn to repentance and resolutions of a new life by the example of his life and wonder of his works: that, therefore, he was justly and principally, next after St. Patrick alone, esteemed another Thaumaturgus, or wonder-worker of Ireland," &c. &c. Readers, who may feel particularly disgusted at accounts of superstitious practices or occurrences in Ireland, and disposed to relinquish all research when these are met with in their own country, even in the chronicles of events of two centuries ago, may be reminded of the doings of Mr. Thom,—the new Messiah,—and his followers, in the vicinity of the principal cathedral town of England in our own times; and may be assured that a great deal more interest attaches to the performances of the Irish thaumaturgist, than does to the phrensied exploits, impious pretensions, and tragic catastrophe of the Canterbury prophet.

There are matters of interest, even in a medical point of view, in the singular effects produced on the imaginations, and, as it is alleged, on disease itself, in many instances, by the practices of Finaghty; and, notwithstanding his frequent failures and evident attempts to impose on the superstitious and weak-minded, it is a question of more than mere curiosity whether his practices of a curative kind were identical with those which Mesmer is commonly supposed to have been the originator of.

It is certain that practices similar to those of the animal magnetisers were in vogue with the Pagan Irish, and were condemned by St. Patrick; but, notwithstanding the condemnation, were still observed after Christianity was established. One of the first Irish

scholars of the day, Mr. Eugene Curry, recognises, in a pagan practice, called in Irish, *Tenm Lae*, or "The Enlightenment,"—a performance of a mesmeric kind.

The earliest account of this practice was found by that gentleman in an ancient Irish manuscript, where the affairs of Ireland are treated of during the interregnum between the death of Edirsgel More and Conaire More, about the year of our Lord 20.

The evils arising from the delay attending the election of a king, after the death of Edirsgel, led to a great assembly of the princes and chiefs at Tara, and there it was determined to practise the *Tenm Lae*, to ascertain the will of heaven respecting the succession. "The enlightenment" was, accordingly, performed in the usual manner. A young man was selected by the Druids; some raw meat was given to him to eat; a great number of solemn rites were performed. One of these consisted in breathing on him, and these operations continued till he was put into a deep trance; and while thus entranced, he was questioned as to the person who was destined to succeed Edirsgel. He then returned intelligible answers, describing the person spoken of. The young man was kept entranced till the Druids sent to a place some six or seven miles distant, which had been named by the young man, and there they found the person described and sought for, and they forthwith proclaimed him monarch.

In 1662, the Duke of Ormond being again Viceroy, Walsh, on his return to Ireland, heard once more of Father Finaghty working great wonders. He was commissioned, immediately after his arrival in Dublin, by his Grace of Ormond, "to look particularly and singly after him (the same Father Finaghty), and see he allured the people no longer, by going about so like a mountebank, cheating all the nation, nay and bringing his countrymen also into suspicion of some bad design among them; and this neither unjustly nor at all ungroundlessly, if his procession about the kingdom, and the multitude everywhere flocking to him, be considered."

Walsh, then, was appointed not to inquire into the truth or falsehood of Finaghty's pretended powers, but "to see that he allured the people no longer;" so that we are more likely to find in his report what was unfavourable to the pretensions of this man, in the result of his performances, than such things as might seem to give any support to them. Yet there is no *apparent design*, in the inquiry instituted, to deal unjustly or unfairly by the person who was the subject of it.

Walsh at once entered into communication "with the most judicious of all kinds, both ecclesiastics and laics, from all parts of the kingdom, at Dublin," some of whom were of the county of Galway, where Finaghty had his ordinary residence, who had seen him practise on themselves and others. The result of his inquiries was:

1. That in 1662, previously to Ormond's arrival in Ireland, Finaghty had obtained a pass from the authorities "to go freely where he pleased in Ireland," and had gone from province to province, and had drawn after him great multitudes of people, "some expecting

to be healed of their infirmities ; others, incomparably the greater number, to be satisfied in their curiosity."

2. That he had blessed and hallowed a great number of wells in various places, and given them special titles; and, as the people imagined, had given them part of his own efficacious supernatural virtue for the cure of diseases.

3. That he had made a triumphant progress through several countries, till he came within five miles of Dublin, and was in all places "received, entertained, reverenced, honoured, and admired, not only by the common people, but by the gentry, nobility, knights, lords, ladies, and clergy also; and by many also presented by gifts, which he never refused."

4. That at Cluansillah, five miles from Dublin, such vast numbers of people of the city and adjacent country thronged about him, that many were trodden almost to death.

5. That from thence he returned to his own country, practising everywhere, "as his manner and delight was to practise in the open fields, amongst great multitudes, dispossessing of devils from such as he himself alone was pleased to judge possessed, and curing, too, or at least with pretending and attempting to cure all other diseases by prayers and exorcising, *and touching, and crossing, and stroking, and* (*sometimes also for some diseases*) *by blowing vehemently and laboriously into the ears of the diseased party.*"

6. That some Protestants, also, had gone to see him, others of them to get his helping hand; but amongst them many, and likewise amongst the Catholics, who returned extremely unsatisfied, looking on all his feats as impostures, while others cried them up for miraculous performances; "and from the former dissatisfied persons the information given to the Lord Lieutenant had proceeded."(*a*)

A Galway man well acquainted with Finaghty told Walsh, that the former had in his youth been a servant "to one Father Moor, an old, venerable Jesuit, and skilful exorcist," from whom he had learned his art and knowledge of exorcising. Subsequently Finaghty, when questioned on this point, denied the assertion. There was no Jesuit on the Irish Mission named Moor. There was one named Moor living in Drogheda in 1642 and 1649 ; he was superior of his brethren in Galway—then a septuagenarian—a man of great repute in his order(*b*).

Father Melaghlin, a Franciscan, who had a personal knowledge of Finaghty, spoke of him to Walsh as "a very illiterate, undiscerning person," who never had studied natural or rational philosophy,

(*a*) It is a very remarkable fact, that while the Roman Catholic clergy of Ireland, either from their own common sense, owing to the habits of strict discipline in which they are educated, their reverence for established authority, or their love of orthodoxy, have kept aloof from all modern quackery,—very many of the Irish Protestant clergy have been, of late years at least, the warmest advocates and most devoted apostles of Hydropathy, Homœopathy, Phrenology, Phreno-Magnetism, Mesmerism, and such like delusions.—Ed.

(*b*) See Dr. Oliver's Jesuit Biographies, p. 259.

and very little divinity, or rather none at all, fit to make him a discerner of spirits," and yet he pretended that he knew a large portion of his countrymen and co-religionists were possessed by devils. Moreover, the Franciscan asserted that those whom he pretended to have cured were observed very soon to relapse into their former state.

Walsh could meet with only "two grave Catholic gentlemen," Geoffrey Brown and Richard Bellings of the Kilkenny Confederation, who could speak from their own knowledge of cures effected by Finaghty. These gentlemen "were no bigots." Bellings assured him that Finaghty had "a wonderful gift from God, of curing by exorcisms and prayers." Brown told him he had been present when a cripple, well known on the way, who had been always without the power of his lower limbs, "going upon all fours, with the aid of two short crutches, half a foot high," had been cured in the presence of a great multitude in the following manner:

The cripple being laid down at the feet of the Father, the latter prayed over him, signed him all over with the cross, and after some time bid him get up, "which the cripple did not;" but one of the assistants raised him up by main strength from his crutches, and held him up for some time with difficulty, the cripple crying out vehemently that he was in torture all the time. Then Finaghty had him laid down again, repeated all the former operations, and bid the assistant rise him up once more. The cripple was no sooner raised up than he stood without assistance, walked before all present, gave God thanks, and found himself perfectly cured; and the following Sunday attended a hurling match, "to the extream wonderment of all who had known him before." Mr. Brown, however, "would not determine whether what he saw was a true miracle or no." Mr. Bellings, some time after, in Walsh's hearing, solicited the Duke of Ormond for a pass for Finaghty. The Viceroy offered him one for Dublin, where, if he came and performed only one miracle, he should be honourably received and lodged even in the Castle. But he cautioned Mr. Bellings against allowing Catholics to be laughed at for their credulity.

About a year later Walsh received accounts of Father Finaghty, then in England, performing very wonderful cures, both on Catholics and Protestants, at the Portuguese Ambassador's in London, and at the Queen's at St. James's. It appears that he was sent for to London to cure the lady of a Portuguese nobleman, then staying with the Queen, who had lost her sight; and "Father Taig M'Eochny," *alias* Captain Power, an Irish Dominican, afterwards Bishop of Clonfert, was sent from the Court with money for father Finaghty. The mission was in vain, the money was lost,—the attempts of Finaghty to give sight to the blind countess proved a failure. Nevertheless, he maintained his credit with his friends, though the jealousy of some minister caused him to decamp from London. "He was thence honourably conveyed in a coach drawn by six horses, accompanied by an English Catholic gentleman,

through Oxford, to Chester and Holyhead. He remained in Wales for some days, with Lord Dillon and Mr. Garrett Moor, two great admirers of his, and then returned to Dublin.

The higher order of Catholics of the capital were said to have been rather scandalized by the circumstance of Father Finaghty having come accompanied from England by a Lancashire woman, whom he described as a demoniac. But while he remained in the capital "he performed" at the house of the Lord Fingall, and a great number of persons, both Catholics and Protestants; amongst the latter, the Countess of Antrim, conducted thither by Father Peter Talbot. The great feat promised on the occasion was to dispossess the Lancashire woman of a devil. Father Talbot, not unreasonably, required a dispossession *in signe visibile* for the satisfaction of the standers-by. Finaghty made no objection; however, he said it should be done by *visible sign;* he commenced his exorcism, and "falling again to his adjurations, failed manifestly, before all the people." It is worthy of observation, though Walsh passes over the fact unnoticed, that whenever Finaghty failed he never seemed in the least disconcerted, nor did he vouchsafe to attempt any apology for the failure. Walsh now set about "a last and most vigorous inquiry;" and the result of this new inquiry was as unsatisfactory, and the testimony as conflicting, as on the former occasion. All the Church fathers, regular and secular priests, seemed against Finaghty. They accused him of taking presents of horses, watches, gold, silver, pieces of woollen and linen cloths, &c. One venerable old Franciscan, in the convent of Clane, Father Dempsy, told Walsh the custom of Father Finaghty was, to assemble a multitude in an open field, and single out before the people some young maid whom he was wont to say was possessed by the devil. If the girl denied it, "he would box her and bang her lustily," until, being confounded with shame, she would confess whatever was required of her. He had acted thus at Downadea, at Sir Andrew Aylmer's; and the maid selected by him on that occasion, and buffetted into an admission of "possession," came to father Dempsy soon after, and confessed to him that she had been compelled by shame to give the answers required of her, but never had been possessed, to her knowledge, by any devil. At Castletown, in the diocese of Dublin, at Lady Dangan's, Walsh was informed that he had healed a lame man, and given sight to a blind one. But the parish priest of Castletown "seemed not thoroughly satisfied of the miraculousness of what was done there," for, besides praying, exhorting, touching, and crossing, he lay down on the cripple, stretched out the sinews of the legs, and straightened the knees forcibly; while at Lady White's, at Leixlip, where he restored the sight of a blind man, "with his fingers he forcibly opened the eye-lids of the blind man," yet neither could be said to be perfect cures; "the *blind man* did not see clearly, nor did the cripple go even then strongly and confidently."

Walsh at last had the good fortune of (being in Dublin when Finaghty was there) meeting with him; but previously he found

that some Protestant officials "had come to a resolution of bringing Finaghty before the Bishops' Court, for a wizard or an impostor;" but Dr. Loftus had interposed, and objected to that proceeding, "till Walsh's arrival or the Viceroy's return to Dublin."

The Roman Catholic clergy, on the other hand, had assembled, and discussed the propriety of prohibiting any further practices of his in Dublin, and to command him to depart, "as an impostor or a brain-sick man." The Franciscans alone continued to countenance him; and a young Protestant Irish gentlewoman, they informed Walsh, had been cured of "some inward disease in one of her limbs by him." The lady herself also informed him of the same fact, and of her having been subsequently "reconciled to the Roman Church." This was the only cure which Walsh could learn had been effected by him, and he attaches little importance to it.

He then proceeds to give the result of his own communication with Finaghty, whom he first met at the chapel of Father Aylmer, a secular priest, in Owen's-arch (Audoen's-arch?), when the latter was preparing for the altar, and was on his knees when Walsh entered. The substance of his answers to the different queries of the latter were: that he had formerly, he believed, the good opinion of all the clergy; that the Jesuits of late, both in England and at home, had opposed him; that he never denied, as Lord Clancarty had asserted, the power of curing natural disorders; that he had never learned modes of exorcism or curing from Father Moor; that whatever had been done by him was the gift of God, and the end of his performances was to manifest the truth of his religion; that he had informed Lord Aubigny, the Queen's Almoner in England, that he would undertake to cure as many sick as might be brought to him, after being duly examined by an expert physician, after the clergy of the Court had failed to heal them by their prayers; but that his challenge had not been accepted; and finally, that he again offered to do the same in Dublin, and commissioned Walsh to make that offer to the Lord Lieutenant and Council; that he feared no trial, and for once he had failed that he had succeeded a thousand times; that God had bestowed his gift of healing on him before he entered into orders, and that his first essay was with a book of exorcisms in the case of his own brother, one prayer from which book had caused the devil to restore some clothing Satan had stolen from that brother. After visiting him several times, Walsh at length had an opportunity of seeing him practise on twenty or thirty poor country people. Their ailments were aches and pains in various parts, weakness of sight, and deafness. One was a boy apparently blind, and another a girl of thirteen or fourteen who "was troubled with fairies."

He began with prayer and exorcism; these were very short. Having driven the pain, as he said, or the patient asserted, from one part to another, he followed it from place to place, "crossing and praying and conjuring;" and after two or three attempts "the patient, being questioned by him, answered, he or she was cured."

Then he bade the person return, kneel down, and return God thanks. In this way he proceeded from one to another, but occasionally varying the practice. In some cases "he used to blow very long and very strong into the ears of such who complained of deafness or pain in the organ, laying his mouth on the affected ear, or blowing so vehemently hard thereinto, that it must have been both painful to himself, and naturally (without any miracle at all) in some measure effectual to work in the organ some alteration." The practice of blowing into the ears of cattle, especially of horses, is an old popular arcanum, well known to cattle doctors and several veterinary practitioners in this country,—a practice much older than Walsh or Finaghty, and which has been revived with some notoriety within the last ten or twelve years.

Finaghty's repeated efforts to restore the sight of the blind boy were wholly unsuccessful; "yet he very carelessly, and without any further ceremony or notice taken thereof (the failure), giving over and turning away from the blind boy, passed on to some other of those who expected their turn, but who had no visible disease or evil, and practised upon them."

A poor woman from Crumlin, with the child "troubled with the fairies," next approached.

Finaghty said he must speak with the girl apart, and he led her away to another room, and "remained (alone) with her for a pretty while," Father Walsh thinking it odd that he had not been asked to be present at this conference. At length he allowed him and the others present to enter the room where he and the girl were. The latter was seated opposite an open window, the former was standing over her, praying and exorcising, crossing the head and forehead; and, according to the girl's account of her shifting aches, he pursued the pains from limb to limb, crossing and exorcising the affected part. Sometimes she said the pains were gone; then "he boxed her, said she lyed, and re-commenced his operations, *pursuing the pains in the same method till he comes down to her feet, then rubs hard, or rather strikes or strokes hard her foot, with his own over it in a sloping manner, so that her toe was the last he touched with his sole, as pretending to drive out the devil* from that last habitation or retreat of his into her toe."

Then he bade her look out of the window and see how many people passed, and when she demurred he menaced her, and this had the effect of getting answers from her. He asked her if she saw a high mountain afar off, with a great fire on the top, and a multitude of black-looking people fighting, slaying, and throwing one another into the flames. She answered, "yes." He finished his exorcism by calling on a hundred thousand devils to come from hell and carry off their companion who possessed God's creature then present. But, strange to say, the girl having repeated her former declaration that she was cured,—Finaghty said again, "she lyed," and, turning to the beholders, said, "she is yet strongly possessed, she must be brought to me again."

Yet, after this scene, Father Walsh called on him in Kennedy's-lane, and finding him on his knees at his devotions, requested to be touched by him from the crown of the head to the soles of the feet, "for a little spice of the scurvy," which he had for many years. But though no great benefit appears to have been derived from the operation, he was resolved "to suspend his judgment till the great public trial before the Viceroy came on, which he (Finaghty) had demanded. The Viceroy gave some very excellent reasons to Walsh for not complying with this demand, but Father Walsh prevailed on him "to let the man have his will."

Finaghty came to Walsh one day, and complained of having been kept six weeks in town waiting for the Duke's license for the trial. Walsh informed him it had been granted; a number of sick would be sought out, and there should be a few Protestants amongst them, by the order of the Viceroy; and the trial should take place in two or three days. Next day Finaghty came by appointment to Walsh's abode (in Kennedy's-lane also), and said mass privately there in the oratory of the latter. Two grave and distinguished gentlemen of the Court came in "unexpectedly," as Walsh states; one was the famous physician and great traveller, Sir William Petty; the other Sir Robert Southwell, one of the clerks of the Council at Whitehall, who had lately been Envoy Extraordinary at the Court of Portugal. Sir William Petty had been charged, jointly with Dr. Yarner, to examine the sick persons who were then in town in readiness for the trial. Finaghty was sitting at the fire when Walsh, pointing to him, told the gentlemen that was the "far-famed, wonder-working priest, Father James Finaghty." Sir William Petty spoke to him in very courteous terms, saying, with respect to his wonder-working powers, his own mind was as a sheet of blank paper; he had no impression for or against them: "You may write in my soul what you please as to the way of worshipping God, if you attest that way by plain miracle. And, therefore, if you do, by your prayer, remove this wart which you see on my finger, I will presently declare myself of your religion." Finaghty objected to the proposal, or to any deductions that might be drawn from its failure, if accepted; so it was withdrawn. Sir William then said he laboured under a troublesome infirmity; he was purblind or near-sighted, and if Father Finaghty would cure him, he would humbly and gratefully acknowledge "God's merciful and wonderful hand therein." Father Finaghty rose up and said, "let us try." He then turned his face to the wall, knelt down, and seemed to prepare, by private prayer, for the attempt. Sir William and his companion, who resolved to second the operator's efforts as much as in them lay, knelt down likewise and prayed, as did also Father Walsh. When Finaghty arose he put a stole about his neck, and sprinkled them all with holy water; then placed Sir William between him and the light of the window, "said a prayer proper for the eyes," and repeatedly crossed the eyes of the learned physician. Then he put a Bible in Sir William's hand, and asked him could he read it bet-

ter than formerly. The latter, in his hopefulness of an improvement, at first thought his sight "mightily amended," but, soon finding his error, he told Father Finaghty how it was. The operation was repeated, with the same result, a second time. "Father Finaghty, without further attempt or ceremony, or word spoken by him, turns aside, pulls off the stole, puts on his hat, and takes his former seat at the fire, with his back turned to us, as unconcernedly as might be." Sir William put on his hat also, and asked Walsh if he knew any thing of necromancy, for he knew a book that treated of that science, wherein every word of the prayer used by Father Finaghty was to be found. The book, he stated, was said to be written by "Frater Petrus Lombardus Minor." The book was then shewn to Walsh (for it strangely appears Sir William had it in his pocket), and Walsh acknowledged there was no material difference between the two forms of prayer. "Sir William, before he took his departure, said, in a solemn way, he had a proposal to make: Let the gentleman (Finaghty) assemble in a field a multitude of sick people, as he is wont to do, and he, Sir William, would bind himself in a sum of £100, to be paid in gold to Father Finaghty, to cure by his own practice as many as Father Finaghty should cure by his. Then he and Sir Robert Southwell went away, without so much as saluting or noticing in any way Father Finaghty."

"This was the last experiment I saw of that good father," says Walsh. Next day the latter, by the Viceroy's orders, intimated to him all was in readiness for the proposed trial. "The poor gentleman (at this intimation) discovered, even in his countenance, his inward anguish and extreme trouble." It was evident he never expected the permission of the State would be given for such a trial. He immediately said he could not stay; he must set out next day for Connaught; he was weak in body; his health had been impaired in Dublin; he suffered from night perspiration, which had been brought on by the labour of mind and body attending his performances; he must go to the country to recruit his strength, then he would return and perform all he had promised. All remonstrances were, for a length of time, in vain. The plea of ill health, he was reminded, was untenable; he eat and drank, and slept well. The world, if he fled, would set him down for an impostor. At length Finaghty said, "he would then stay, and appear without further delay." Poor Father Finaghty was put by the wily Viceroy and his astute agent "in a fix." Shortly after his assent was given to the recommendation of Walsh to stand his ground, he said: "Oh! that I had those two possessed women which the Jesuits brought me the other day."

Walsh now kept a sharp look out after the thaumaturgist. The night before the appointed trial he caused him to lodge in his house. Finaghty retired to bed very confident in his manner of success on the morrow. At day-break, when Walsh arose according to custom, he was surprised to see Finaghty enter his room accoutred for a journey, and state to him that he had been perspiring all night (pro-

bable enough), he was sick, he could not stay, he had a horse ready for his departure; and to have him beg also to make his excuses to the Viceroy.

A sick man, setting out on a long journey on horseback, in the depth of winter, seemed somewhat strange to Walsh. Finaghty was called on to sit down and write to the Viceroy his reason for abandoning the proposed trial. Finaghty said he was a poor master of the pen; he could not presume to address a Lord Lieutenant. Walsh replied, the excuse was an idle one; he could write very well, and good sense too, when he pleased. It was diamond cut diamond. Finaghty would not commit himself on paper. The menaced prosecution in the Bishop's Court was not abandoned, only suspended. Witchcraft was a felony, punishable at the stake, and Finaghty had more ambition to do miracles than to suffer martyrdom.

Walsh gave him some money for his journey; charged him to make no further attempts at healing or exorcising on his route to Galway; he bore himself submissively, "and, two hours after, before he left town, he sent me (says Walsh) a little printed English book in 12mo or 16mo, an account of his own miracles lately done in England." Here ends Father Walsh's report to the lords and fathers of his order in congregation assembled.

It appears, by a note to the document in question, that, subsequently to his flight from Dublin, he still practised on maids and women in Connaught; and some of the latter, whom he declared demoniacs, he shut up in Portumna, and, by discipline and fasting, drove almost mad. The reader may, probably, recollect the similar result produced by similar means on the nuns of Loudon in France, about the same period, that ended in the judicial murder of Urban Grandier. The Archbishop of Tuam finally took Father Finaghty to task for practising exorcisms by wholesale, and declaring multitudes of women demoniacs, "and for further saying, that all the women in Ireland were possessed, i. e. by the devil specially possessed." He was forbidden to practise any more in Connaught, and his feats everywhere else were generally opposed and prohibited. "He went out like the snuff of a candle," as we are told by Walsh. "He made a great noise," we learn from Dr. Smith, "both before and after the Restoration, for curing all sorts of diseases (which he held to be the effect of possession), by exorcisms and stroking, and was followed for some time by vast numbers of people. But at last he was discovered to be a mere impostor." This is all that Smith condescends to say of him, yet his career has more in it to excite curiosity and attention than that of Greatrakes, to whose performances he has devoted some pages.

Whether Finaghty, the far-famed wonder-worker, was a mere impostor, a mere fanatic, a compound of both, or a man who performed some cures, which neither a mere fanatic nor a mere impostor could have effected, and, whether those cures were made alone by an influence exercised over the imagination, or by practices productive of phenomena (of whatever nature they may be) similar

to those produced by mesmeric operations, the reader will determine.

In conclusion, it may be observed that practices analogous to those of animal magnetizers, for the cure of diseases, may be traced in many works of antiquity, and the popular modes of cure by *the medicine men* amongst some tribes of American Indians, the *hakims* in the East, the *fetish* people in Africa, and the *handling doctors* in some parts of Ireland.

The simple practice of handling or stroking with the hand, in all probability, preceded the use of the magnet for the cure of disease. Lessing erroneously ascribed to Paracelsus the use of the magnet, as a remedial operation. Œlius, who flourished A. D. 500, making mention of it, says: "We are assured those who have the gout in their hands or feet, or convulsions, find relief when they hold a magnet."(*a*)

Paracelsus, who surpassed all the wonder-workers of antiquity, and believers in marvellous scientific practices, even in the possibility of making "homunculi" by them, particularly eulogized the use of the magnet for the cure of disease: fluxes and hæmorrhages, and various other maladies, he tells us, were curable by magnetic influence.

In the fifteenth century Marcellus speaks of the use of the magnet for the cure of tooth-ache, and Leonard Camellus, for the same disorder, speaks of its application to the head. Kircher mentions the use of magnetic beads worn round the neck; and Ambrose Parè speaks of the employment of the magnet in some surgical operations. In 1770, Father Hehl, a Jesuit professor of astronomy, in Vienna, Beckman states, communicated to Anton Mesmer the wonderful effects produced by magnetized steel plates; and in 1798, Perkin's magnetic steel tractors obtained a temporary notoriety; but the *modus operandi*, both with Mesmer and Perkins, as far as regards the mere manipulation, imposition of hands, passes, or friction, was the old popular practice that has been already referred to,—the handling or moving of hands over the sick,—of those operators, in various countries, who professed to cure disease by the combined power of magic and medicine, or superhuman means alone, with the influence, real or supposed, of the magnet superadded to it.

IRISH ASTROLOGERS.

In our Preface to the present series of this Journal, we mentioned the name of "Isaac Butler, Surgeon, Astrologer, Almanac-maker, and Botanist," and, moreover, Satellite to the Physico-Historical Society in 1744.

This genius, of whose birth or lineage history has not informed us, was employed by this society to make inquiries after rare plants, and to travel in search of fossils, simples, and such other curiosities

(*a*) Ap. Beckman's Hist. of Inventions. London ed., vol. i. p. 44.

as were mentioned in the society's proposals. He was also required to produce, from time to time, lists of the names and localities of all the indigenous plants then in blow in the vicinity of Dublin. He procured specimens of mineral waters both for the societies and for Dr. Rutty. He furnished the Physico-Historical Society with a catalogue of plants and minerals found in various parts of the kingdom, which is still preserved in the minute-book of this body in the library of the Royal Irish Academy. Besides Butler's knowledge of the sciences, natural and unnatural, visible and occult, chemical and astrological, it would appear that he was somewhat of an antiquary, and was at one time employed by the Dean and Chapter of St. Patrick's to collect materials for a history of their cathedral. Butler died on the 7th December, 1755. In the minute-book of the Medico-Philosophical Society we find the following entry on the 7th of December, 1756:

"Proposed that the Eulogium upon Isaac Butler, drawn up by a Member of this Society, be inserted in this book." A portion of this is as follows:

"On Tuesday last, at 7 Min. four Sec. past Three, *Post Meridiam*, descended to the *Antipodes* or *Nadir*, at his Lodgings under the Sign *Leo*, in *Taurus*, or Bull Alley, the *Umbra* or *Penumbra*, of Mr. Isaac Butler, *Ptolomean Philomath, judicial Astrologer*, Discoverer of Losses, *Botanist*, and Calculator of Nativities, having passed the *Meridian* of Life, and his grand Climacteric, in the 66th Year of his Age.

"He had been formerly a Student under, and for several late Revolutions of this Globe, was Successor to the late truly *Adept*, Doctor John Whalley, Professor of the celebrated Astrological Art of the Doctors *Lilly* and *Partridge*, of *Bickerstaffian* Memory, which Dr. *Whalley* did for many Years calculate and publish the principal Almanack in Ireland, at a time when *judicial Astrology* was held by Philosophers in such Reverence, that they thought it rather supernatural, than a Science founded on *Sidereal Influences*. The like learned *Ephemeris* and Predictions, since his Master's *Culmination* to the *Medium Cœli* below the *Horizon*, have been annually set forth by Mr. *Butler*, who was a kind of *Gymnosophist* and *Rosicrusian* well skilled in the Occult Sciences, and all the Wisdom of *Ptolomey, Erra Pater, Cornelius Agrippa*, and *Tycho Brahe*, which, besides the Changes that were to happen in our Atmosphere, and other the usual Furniture of Kalenders, contained the Gesocentric Courses, Revolutions and Aspects of the Planets, calculated for the Meridian of this Hon. City of Dublin.

"He also inherited from his Master many physical Secrets, and gained such a Knowledge in *Botany*, that he not only collected Simples for the Curious, and Officinals for the Sick, but he also taught several Tyroes in Pharmacy to know most of our indigenous Vegetables.

"December 7th, 1755, this truely greatly *Adept* departed this life; having hastened his end by Laudanum taken in Brandy, which he prescribed for himself, in order to dye like *Socrates* and other antient Sages.

"John Smith, by Trade a Weaver, by Profession a Quaker, being trained up at the feet of our celebrated Gamaliel, and many years his Disciple, succeeded to the Great Honour of being his Successor, in constructing of Almanacks, in Botanical Researches; and being also Beadle to the Company of Apothecaries; and was also chosen Sattelite to a Society of Virtuosi, to which his Master belonged, but being no Conjurer, he has not meddled with Fortune-Telling."

A more lengthened eulogium, in the same strain, appeared in the *Universal Advertiser* of Saturday, December 11, 1755.